

caccctcaag aagtcagtat ggtgcggaat ttaattcaga aagatagaac ctttgctgtt
360
cttgcataca gcaatgtaca ggaaagggaa gcacagtttg gaacaacagc agagatatat
420
gcctatcgag aagaacagga ttttgaatt gagatagtga aagtgaagc aattggaaga
480
caaaggttca aagtccttga gctaagaaca cagtcagatg gaatccagca agctaaagt
540
caaattcttc ccgaatgtgt gttgccttca accatgtctg cagttcaatt agaatccctc
600
aataagtgcc agatatcttc ttcaaacct gtctcaagag aagaccaatg ttcataataa
660
tgggtggcaga aataccagaa gagaagttt cattgtgcaa atctaacttc atggcctcgc
720
tggctgtatt ccttatatga tgcctgagacc ttaatggaca gaatcaagaa acagctacgt
780
gaatgggatg aaaaactaaa agatgattct ctctcttcaa atccaataga ttttcttac
840
agagttagct cttgtcttcc tattgatgat gtattgagaa ttcagctcct taaaattggc
900
agtgcctatcc agcgcattcg ctgtgaatta gacattatga ataaagtac ttcccttgc
960
tgtaaacaat gtcaagaaac agaaataaca accaaaaatg aaattattcag tttatcctta
1020
tgtgggcccga tggcagctta tgtgaatcct catggatatg tgcagagac acttactgtg
1080
tataaggctt gcaacttgaa tctgataggc cggccttcta cagaacacag ctggtttctc
1140
gggtatgcct ggactgttgc ccagtgtgaa atctgtgcaa gccatattgg atggaagttt
1200
acggccacca aaaaagacat gtcacctcaa aaattttggg gcttaacgcg atctgctctg
1260
ttgcccacga tcccagacac tgaagatgaa ataagtcag acaaagtaat actttgcttg
1320
taaacagatg tgatagagat aaagttagtt atctaacaaa ttggttatat tctaagatct
1380
gctttggaaa ttattgcctc tgatacatc ctaagtaaac ataacattaa tacctaagta
1440
aacataacat tacttgagg gttgcagttt ctaagtgaac ctgtatttga aacttttaag
1500
tatactttag gaaacaagca tgaacggcag tctagaatac cagaacatc tacttgggta
1560
gcttggtgcc attatcctgt ggaatctgat atgtctggta gcatgtcatt gatgggacat
1620
gaagacatct ttggaaatga tgagattatt tcctgtatgc agtcatttct gaggccttct
1680
tgcatcatag cccctgtgac atttctctct agaaatatta cactctacaa aattgtttta
1740
tcaagggtcca aaattactat
1760

<210> 3628

<211> 440

<212> PRT

<213> Homo sapiens

<400> 3628

Gly Glu Gly Asp Gln Gln Asp Ala Ala His Asn Met Gly Asn His Leu
 1 5 10 15
 Pro Leu Leu Pro Ala Glu Ser Glu Glu Glu Asp Glu Met Glu Val Glu
 20 25 30
 Asp Gln Asp Ser Lys Glu Ala Lys Lys Pro Asn Ile Ile Asn Phe Asp
 35 40 45
 Thr Ser Leu Pro Thr Ser His Thr Tyr Leu Gly Ala Asp Met Glu Glu
 50 55 60
 Phe His Gly Arg Thr Leu His Asp Asp Asp Ser Cys Gln Val Ile Pro
 65 70 75 80
 Val Leu Pro Gln Val Met Met Ile Leu Ile Pro Gly Gln Thr Leu Pro
 85 90 95
 Leu Gln Leu Phe His Pro Gln Glu Val Ser Met Val Arg Asn Leu Ile
 100 105 110
 Gln Lys Asp Arg Thr Phe Ala Val Leu Ala Tyr Ser Asn Val Gln Glu
 115 120 125
 Arg Glu Ala Gln Phe Gly Thr Thr Ala Glu Ile Tyr Ala Tyr Arg Glu
 130 135 140
 Glu Gln Asp Phe Gly Ile Glu Ile Val Lys Val Lys Ala Ile Gly Arg
 145 150 155 160
 Gln Arg Phe Lys Val Leu Glu Leu Arg Thr Gln Ser Asp Gly Ile Gln
 165 170 175
 Gln Ala Lys Val Gln Ile Leu Pro Glu Cys Val Leu Pro Ser Thr Met
 180 185 190
 Ser Ala Val Gln Leu Glu Ser Leu Asn Lys Cys Gln Ile Phe Pro Ser
 195 200 205
 Lys Pro Val Ser Arg Glu Asp Gln Cys Ser Tyr Lys Trp Trp Gln Lys
 210 215 220
 Tyr Gln Lys Arg Lys Phe His Cys Ala Asn Leu Thr Ser Trp Pro Arg
 225 230 235 240
 Trp Leu Tyr Ser Leu Tyr Asp Ala Glu Thr Leu Met Asp Arg Ile Lys
 245 250 255
 Lys Gln Leu Arg Glu Trp Asp Glu Asn Leu Lys Asp Asp Ser Leu Pro
 260 265 270
 Ser Asn Pro Ile Asp Phe Ser Tyr Arg Val Ala Ala Cys Leu Pro Ile
 275 280 285
 Asp Asp Val Leu Arg Ile Gln Leu Leu Lys Ile Gly Ser Ala Ile Gln
 290 295 300
 Arg Leu Arg Cys Glu Leu Asp Ile Met Asn Lys Cys Thr Ser Leu Cys
 305 310 315 320
 Cys Lys Gln Cys Gln Glu Thr Glu Ile Thr Thr Lys Asn Glu Ile Phe
 325 330 335
 Ser Leu Ser Leu Cys Gly Pro Met Ala Ala Tyr Val Asn Pro His Gly
 340 345 350
 Tyr Val His Glu Thr Leu Thr Val Tyr Lys Ala Cys Asn Leu Asn Leu
 355 360 365
 Ile Gly Arg Pro Ser Thr Glu His Ser Trp Phe Pro Gly Tyr Ala Trp
 370 375 380
 Thr Val Ala Gln Cys Lys Ile Cys Ala Ser His Ile Gly Trp Lys Phe
 385 390 395 400
 Thr Ala Thr Lys Lys Asp Met Ser Pro Gln Lys Phe Trp Gly Leu Thr

405 410 415
 Arg Ser Ala Leu Leu Pro Thr Ile Pro Asp Thr Glu Asp Glu Ile Ser
 420 425 430
 Pro Asp Lys Val Ile Leu Cys Leu
 435 440

<210> 3629
 <211> 695
 <212> DNA
 <213> Homo sapiens

<400> 3629
 acgcgtcccc tgtccggctt ggtatgggtc gcgctgctag cgctaggcca cgcttctctg
 60
 ttccaccggg gcgtggtag cgctgggac cagggtgctt atttctctt cgtcatcttc
 120
 acggcgatg ccatgctgcc cttgggcatg cgggacgcc cgctcgggg cctcgctcc
 180
 tcactctcgc atctgctggt cctcgggctg tatcttgggc cacagccgga ctcacggcct
 240
 gcactgctgc cgcagttggc agcaaacgca gtgctgttcc tgtcgggaa cgtggcagga
 300
 gtgtaccaca aggcgctgat ggagcgcgcc ctgcgggcca cgttccggga ggcactcagc
 360
 tccctgcact cagccggcg gctggacacc gagaagaagc accaggctcag ccgggcctag
 420
 gaaggtcaga gcagcgtcc gagggaggag ttgcttagat tacataacgg ggctcctcca
 480
 caagttgagt gactctgggc aggtttcttg acctgttct tctttgtat aaaatgtggg
 540
 tattgcccc cttagaaggt tgtgaggctc aaacaaacca aagcttataa aaagcacttt
 600
 agagcattat gatattaagt gaactcccat tcagggtgtg atactgggag ttagtcact
 660
 aaaggtgatc agtgtaggat ggagtgtgg ggccc
 695

<210> 3630
 <211> 139
 <212> PRT
 <213> Homo sapiens

<400> 3630
 Thr Arg Pro Leu Ser Gly Leu Val Trp Val Ala Leu Leu Ala Leu Gly
 1 5 10 15
 His Ala Phe Leu Phe Thr Gly Gly Val Val Ser Ala Trp Asp Gln Val
 20 25 30
 Ser Tyr Phe Leu Phe Val Ile Phe Thr Ala Tyr Ala Met Leu Pro Leu
 35 40 45
 Gly Met Arg Asp Ala Ala Val Ala Gly Leu Ala Ser Ser Leu Ser His
 50 55 60
 Leu Leu Val Leu Gly Leu Tyr Leu Gly Pro Gln Pro Asp Ser Arg Pro
 65 70 75 80
 Ala Leu Leu Pro Gln Leu Ala Ala Asn Ala Val Leu Phe Leu Cys Gly

```

      85          90          95
Asn Val Ala Gly Val Tyr His Lys Ala Leu Met Glu Arg Ala Leu Arg
      100          105          110
Ala Thr Phe Arg Glu Ala Leu Ser Ser Leu His Ser Arg Arg Arg Leu
      115          120          125
Asp Thr Glu Lys Lys His Gln Val Ser Arg Ala
      130          135

```

<210> 3631
 <211> 864
 <212> DNA
 <213> Homo sapiens

```

<400> 3631
ngttgttggg atctggtaca ggtgctgagg cagatgcagg tagcatggag ccaaaaatgg
60
agcggctaga agagaagagg tcctggaaag gctcaaagggt gtccatgaag tccagggttag
120
gctgcaaaagg aatcagtcctc ggctggatca tgtctgcatt tcccagatgt gctatttccc
180
ggggattggg cctggtacat gcagtatctg gagaagcgca agaactcctgt gtgccacttt
240
gtgacacccc tggacggctc tgtggacgta gacgagcacc gccggccgga ggccatcacc
300
acggaaggga agtactggaa gagccgcac gagattgtga tccgggagta tcacaagtgg
360
agaacctact tcaagaaaag gctacagcag cacaaggatg aggacctctc cagcctgggt
420
caggacgatg acatgctgta ttggcacaag cacggggatg gatggaagac ccccgctccc
480
atggaggagg atccccctgct ggacacagac atgctcatgt cgggaattcag cgacaccctc
540
ttctccacac tttcttcaca ccagccggtg gcctggccca atccccggga aatagcacat
600
ctgggaaatg cagacatgat ccagccggga ctgattcctt tgcagcctaa cctggacttc
660
atggacacct ttgagccttt ccaggacctc ttctcttcta gccgctccat ttttggtccc
720
atgctacctg catctgcctc agcacctgta ccagatccca acaaccacc tgcacaggag
780
agcatcctgc cgaccacagc cctccccact gtgagccttc ctgacagcct catcgcgccc
840
cccaccgccc catccctggc gcgc
864

```

<210> 3632
 <211> 222
 <212> PRT
 <213> Homo sapiens

```

<400> 3632
Met Gln Tyr Leu Glu Lys Arg Lys Asn Pro Val Cys His Phe Val Thr
      1          5          10          15
Pro Leu Asp Gly Ser Val Asp Val Asp Glu His Arg Arg Pro Glu Ala

```


20 25 30
 Ile Thr Thr Glu Gly Lys Tyr Trp Lys Ser Arg Ile Glu Ile Val Ile
 35 40 45
 Arg Glu Tyr His Lys Trp Arg Thr Tyr Phe Lys Lys Arg Leu Gln Gln
 50 55 60
 His Lys Asp Glu Asp Leu Ser Ser Leu Val Gln Asp Asp Met Leu
 65 70 75 80
 Tyr Trp His Lys His Gly Asp Gly Trp Lys Thr Pro Val Pro Met Glu
 85 90 95
 Glu Asp Pro Leu Leu Asp Thr Asp Met Leu Met Ser Glu Phe Ser Asp
 100 105 110
 Thr Leu Phe Ser Thr Leu Ser Ser His Gln Pro Val Ala Trp Pro Asn
 115 120 125
 Pro Arg Glu Ile Ala His Leu Gly Asn Ala Asp Met Ile Gln Pro Gly
 130 135 140
 Leu Ile Pro Leu Gln Pro Asn Leu Asp Phe Met Asp Thr Phe Glu Pro
 145 150 155 160
 Phe Gln Asp Leu Phe Ser Ser Ser Arg Ser Ile Phe Gly Ser Met Leu
 165 170 175
 Pro Ala Ser Ala Ser Ala Pro Val Pro Asp Pro Asn Asn Pro Pro Ala
 180 185 190
 Gln Glu Ser Ile Leu Pro Thr Thr Ala Leu Pro Thr Val Ser Leu Pro
 195 200 205
 Asp Ser Leu Ile Ala Pro Pro Thr Ala Pro Ser Leu Ala Arg
 210 215 220

<210> 3633
 <211> 1570
 <212> DNA
 <213> Homo sapiens

<400> 3633
 ggatccatcac aactgctccg cctgggtggaa tctgagagga agtcacccca tgtgtcacca
 60
 gcagaagggc tgaagtgaca ggatgttcat tgacctgtca gtggatctga aagttctcta
 120
 aggagagcct gggcaagcat tcttaggttg atgctggggc ccagagtagc agtgagcatc
 180
 ctgtgtgaag atggcatttc tcaactgatta ttggaaaagc acaagagcca cgtgctggag
 240
 ccattgtcca gccttgccct ggaggagcag tgtctggctt tgtccctaga ttggtccact
 300
 gggaaaactg gaagggccgg ggaccagccc ttgaagatca tcagcagtga ctccacaggg
 360
 cagctccacc tcctgatggt gaatgagacg aggccccaggc tgcagaaagt ggccctcatgg
 420
 caggcacatc aattcgaggc ctggattgct gctttcaatt actggcatcc agaaattgtg
 480
 tattcagggg gcgacgatgg ccttctgagg ggctgggaca ccaggggtacc cggcaaat
 540
 ctcttcacca gcnaaaagac acaccatnng ggtgtgtgca gcatccagag cagccctcat
 600
 cgggagcaca tcctggccac gggaagctat gatgaacaca tcctactgtg ggacacacga
 660

aacatgaagc agccgttggc agatacgccct gtgcaggggtg gggatatggag aatcaagtgg
 720
 caccctttcc accaccaccc gctcctggcc gcctgcatgc acagtggcct taagatcctc
 780
 aactgccaaa aggcaatgga ggagaggcag gaggcgacgg tcctgacatc tcacacattg
 840
 cccgactcgc tgggtgatgg agccgactgg tcctggctgc tcttcggttc tctgcagcgg
 900
 gccccctcgt ggtcctttcc tagcaacctt ggaaccaaga cggcagacct gaaggggtgca
 960
 agcgagttgc caacaccctg tcatgaatgc agagaggata acgatgggga gggccatgcc
 1020
 agaccccgaga gtggaatgaa gccactcaca gagggcata ggaagaatgg cacctggctg
 1080
 caggctacag cagccaccac acgtgactgt ggcgtgaacc cagaagaagc agactcagcc
 1140
 ttcagctccc tggccacctg ctccttctat gacctgcgc tccacctctg ggagtgggag
 1200
 ggggaactgag cttgaaatca tgaagccctt tcccacaagg aaaccaggag ggagactgag
 1260
 agtgagtgcc cgggaccacc tcatcagaga tgcttactgc agccctgcag gtgcctgtgc
 1320
 actgatggaa tccacagtgt agtcagaaaa gctgttgact tctcttaaat cagcttcctt
 1380
 gctgggcccc tgaagtgga ctgggtgatt ctgtctggca gagagtgggg aaaagacgag
 1440
 gtttccagct tgcagatttg ttaagtttct caggcagatt ttgactttca gcctttcata
 1500
 cttgtttaag caactatttg tattaaatga agttttttga aaaaaaaaaa aaaaaaaaaa
 1560
 aaaaaaaaaa
 1570

<210> 3634
 <211> 277
 <212> PRT
 <213> Homo sapiens

<400> 3634
 Met Val Asn Glu Thr Arg Pro Arg Leu Gln Lys Val Ala Ser Trp Gln
 1 5 10 15
 Ala His Gln Phe Glu Ala Trp Ile Ala Ala Phe Asn Tyr Trp His Pro
 20 25 30
 Glu Ile Val Tyr Ser Gly Gly Asp Asp Gly Leu Leu Arg Gly Trp Asp
 35 40 45
 Thr Arg Val Pro Gly Lys Phe Leu Phe Thr Ser Xaa Lys Thr His His
 50 55 60
 Xaa Gly Val Cys Ser Ile Gln Ser Ser Pro His Arg Glu His Ile Leu
 65 70 75 80
 Ala Thr Gly Ser Tyr Asp Glu His Ile Leu Leu Trp Asp Thr Arg Asn
 85 90 95
 Met Lys Gln Pro Leu Ala Asp Thr Pro Val Gln Gly Gly Val Trp Arg
 100 105 110
 Ile Lys Trp His Pro Phe His His His Leu Leu Leu Ala Ala Cys Met

```

      115      120      125
His Ser Gly Phe Lys Ile Leu Asn Cys Gln Lys Ala Met Glu Glu Arg
      130      135      140
Gln Glu Ala Thr Val Leu Thr Ser His Thr Leu Pro Asp Ser Leu Val
      145      150      155      160
Tyr Gly Ala Asp Trp Ser Trp Leu Leu Phe Arg Ser Leu Gln Arg Ala
      165      170      175
Pro Ser Trp Ser Phe Pro Ser Asn Leu Gly Thr Lys Thr Ala Asp Leu
      180      185      190
Lys Gly Ala Ser Glu Leu Pro Thr Pro Cys His Glu Cys Arg Glu Asp
      195      200      205
Asn Asp Gly Glu Gly His Ala Arg Pro Gln Ser Gly Met Lys Pro Leu
      210      215      220
Thr Glu Gly Met Arg Lys Asn Gly Thr Trp Leu Gln Ala Thr Ala Ala
      225      230      235      240
Thr Thr Arg Asp Cys Gly Val Asn Pro Glu Glu Ala Asp Ser Ala Phe
      245      250      255
Ser Leu Leu Ala Thr Cys Ser Phe Tyr Asp His Ala Leu His Leu Trp
      260      265      270
Glu Trp Glu Gly Asn
      275

```

<210> 3635

<211> 835

<212> DNA

<213> Homo sapiens

<400> 3635

```

ngaattcaac ttcagcaaca gcagcaacag tcttgccaac acctgggatt actaactcct
60
gttgaggattg gagagcagct ttctgaggga gactatgcac gggtacagca agtggatcct
120
gttttactta aagatgaacc ccagcagact gctgctcaga tgggttgtgc gccaatccag
180
cctctggcga tgcctcaagc ttgctctctg gcggcaggtc ccttgctctc agggctccatc
240
gcaaactctta cagaactgca aggagtgata gttggacagc cagtactggg ccaagcacag
300
ttggcagggc tggggcaagg aattctgaca gaaacacaac aagggttaat ggtagccagc
360
cctgctcaga ccttcaatga cagcctggat gacatcatgg cagcagtcag tggaagagca
420
tctgcaatgt caaacactcc taccacagct attgctgcat ccatttccca acctcagact
480
ccaactccaa gtcttatcat ctctccttca gccatgcttc ctatctaccc tgccattgat
540
attgatgcac agactgagag taatcatgac acggcgctaa cacttgccctg tgctgggtggc
600
cacgaggaac tggtagaaac actgctagag agaggagcta gtatagagca ccgagacaag
660
aaagggtttta ctccactcat cttggctgcc acagctgggc atgttggtgt tgtggaaata
720
ttgctggaca atgggtgaga cattgaagcc cagtctgaaa gaaccaagga cacaccactc
780

```

tccttggtt gttctggggg aagacaggag gtggtggagc tattgttagc tcgag
835

<210> 3636
<211> 278
<212> PRT
<213> Homo sapiens

<400> 3636
Xaa Ile Gln Leu Gln Gln Gln Gln Gln Ser Cys Gln His Leu Gly
1 5 10 15
Leu Leu Thr Pro Val Gly Val Gly Glu Gln Leu Ser Glu Gly Asp Tyr
20 25 30
Ala Arg Leu Gln Gln Val Asp Pro Val Leu Leu Lys Asp Glu Pro Gln
35 40 45
Gln Thr Ala Ala Gln Met Gly Cys Ala Pro Ile Gln Pro Leu Ala Met
50 55 60
Pro Gln Ala Leu Pro Leu Ala Ala Gly Pro Leu Pro Pro Gly Ser Ile
65 70 75 80
Ala Asn Leu Thr Glu Leu Gln Gly Val Ile Val Gly Gln Pro Val Leu
85 90 95
Gly Gln Ala Gln Leu Ala Gly Leu Gly Gln Gly Ile Leu Thr Glu Thr
100 105 110
Gln Gln Gly Leu Met Val Ala Ser Pro Ala Gln Thr Leu Asn Asp Thr
115 120 125
Leu Asp Asp Ile Met Ala Ala Val Ser Gly Arg Ala Ser Ala Met Ser
130 135 140
Asn Thr Pro Thr His Ser Ile Ala Ala Ser Ile Ser Gln Pro Gln Thr
145 150 155 160
Pro Thr Pro Ser Pro Ile Ile Ser Pro Ser Ala Met Leu Pro Ile Tyr
165 170 175
Pro Ala Ile Asp Ile Asp Ala Gln Thr Glu Ser Asn His Asp Thr Ala
180 185 190
Leu Thr Leu Ala Cys Ala Gly Gly His Glu Glu Leu Val Gln Thr Leu
195 200 205
Leu Glu Arg Gly Ala Ser Ile Glu His Arg Asp Lys Lys Gly Phe Thr
210 215 220
Pro Leu Ile Leu Ala Ala Thr Ala Gly His Val Gly Val Val Glu Ile
225 230 235 240
Leu Leu Asp Asn Gly Ala Asp Ile Glu Ala Gln Ser Glu Arg Thr Lys
245 250 255
Asp Thr Pro Leu Ser Leu Ala Cys Ser Gly Gly Arg Gln Glu Val Val
260 265 270
Glu Leu Leu Leu Ala Arg
275

<210> 3637
<211> 2128
<212> DNA
<213> Homo sapiens

<400> 3637
nacgcgtgcg atccccggcg cccgcgcgcg cccatagcgc tccgccagag ctgcgcgcgc
60

ggactcgcg ggagtggggg tctccgctgg tgccagcccg cttctggaga cctccgcct
120
cctgcccaacc cctgctcttc caggtcgggc cccgggggttc tgcggctgtt agggacagag
180
gcaaagaagg gcaggacggt ccggtttccc gtggatgttc ccgccgaga aagacagcaa
240
gttgtgtgtg cggccgggac gcgggagsga aggtagccgc cgcccgccag ccatggacca
300
tcattctttag tgcagaggat ggaaagtta tgcccagtaa gactgaagat ccattctgca
360
ttacggaact gtggattatc tgtgggtccc tgggtatttc acaccttcac tcaactcctgc
420
agtccttgaa cacttacttg gggtcctcat tgcctatct ggtgaaagat ggcattccagc
480
ctgacttgta ctggagtaat ctgggctttg ctgtcttttc tttgtgtgc cactcctgc
540
gtgggggttct ttatgcctta ctggctctgg ggatcacagc tgggcaagcc tgtgtccttc
600
ggtaccttcc ggaggtgctc atatcctgtg catgatgaga gtcggcagat gatggtgatg
660
gtggaggaat gtgggcgcta tgcctccttc cagggcattc ccagcgaga atggaggatc
720
tgcaaccatag tgaccggcct gggttgtggc ctctcctc tggtgggcgt cactgccctc
780
atgggttgct gtgtttccga cctcatctcc aggcagtggt gaagagtggc tggaggaatt
840
cagtttcttg ggggcttgtt gattggtgct ggctgtgcc tctacccctt gggctgggac
900
agttaggaag tccggcagac ttgtggctac acttctggcc agtttgacct ggggaagtgt
960
gaaatcggct gggcctacta ctgcacggga gcagggtcca ctgccgccat gctgctgtgc
1020
acgtggctgg cttgcttttc gggaagaaa cagaagcact acccatactg agatggagct
1080
accaagagca gacagaggag aagatgggccc aaaggggctt ggagaggta aaacatccac
1140
ctaccttcaa aagggtggat agtagttcta atccaatata atgctaataa aatgaaaccc
1200
gataaaatca ggaacatgat ataggaagga aggattgtag gagatttgtg ggggaaaaaa
1260
aaggagagta tagaatgatg gaaaaaatg gaccaaaggc taaaaatatt gcagggcac
1320
gggtgtttct attccacaga gtattgttaa tgtacaacac acacacacac acacacacac
1380
acacacacac acacacacaa caaatctaca tatacaaaaca agggtttggg ttttagtttt
1440
ttttttttaa ggtgaggact cagaaaaatca aagggctagt agaaacagtg ttatgttggg
1500
aagcaaggta ccccaaaaga tgttccctgt aggtcacggc actcccaaaa gcacacaagc
1560
acatacagac atatgcatcc ccacacacgc ctatgcacaa acgtggatta tcgcacagac
1620
tgaggaggtt agtgggtgat ttctcctctg tttctttttt aatatacatt taaaaacag
1680

tattatcact ttataaaaca tacattaagc ctaataaatg gaccaataag ccaaactatc
 1740
 agtattttgt atatcctgca taaactctaa tttagttcct caacatattt tcagtgttta
 1800
 tgcagacctt tagagttaag cctttgtatt tccatgttat tccacaatat gcaatatttc
 1860
 tctgagtagc tcttgctatg atattcttat gaagaaaagg ggcaactttc tgtccactat
 1920
 aggagagaat tcagccgaag atatgagagt aatgagagac attttccagt cattggatcg
 1980
 tgttttcttt tgtccattat tgtactgtgc tgtaccacat ttatttctat attcattttg
 2040
 taaaaaattt aaaagtgcta ttttgtttgt atttgaaaat ctctgtgaat aaattctctc
 2100
 tttgatcaat aaaaaaaaaa aaaaaaaaaa
 2128

<210> 3638

<211> 200

<212> PRT

<213> Homo sapiens

<400> 3638

Met Ala Ser Ser Leu Thr Cys Thr Gly Val Ile Trp Ala Leu Leu Ser
 1 5 10 15
 Phe Leu Cys Ala Ala Thr Ser Cys Val Gly Phe Phe Met Pro Tyr Trp
 20 25 30
 Leu Trp Gly Ser Gln Leu Gly Lys Pro Val Ser Phe Gly Thr Phe Arg
 35 40 45
 Arg Cys Ser Tyr Pro Val His Asp Glu Ser Arg Gln Met Met Val Met
 50 55 60
 Val Glu Glu Cys Gly Arg Tyr Ala Ser Phe Gln Gly Ile Pro Ser Ala
 65 70 75 80
 Glu Trp Arg Ile Cys Thr Ile Val Thr Gly Leu Gly Cys Gly Leu Leu
 85 90 95
 Leu Leu Val Ala Leu Thr Ala Leu Met Gly Cys Cys Val Ser Asp Leu
 100 105 110
 Ile Ser Arg Thr Val Gly Arg Val Ala Gly Gly Ile Gln Phe Leu Gly
 115 120 125
 Gly Leu Leu Ile Gly Ala Gly Cys Ala Leu Tyr Pro Leu Gly Trp Asp
 130 135 140
 Ser Glu Glu Val Arg Gln Thr Cys Gly Tyr Thr Ser Gly Gln Phe Asp
 145 150 155 160
 Leu Gly Lys Cys Glu Ile Gly Trp Ala Tyr Tyr Cys Thr Gly Ala Gly
 165 170 175
 Ala Thr Ala Ala Met Leu Leu Cys Thr Trp Leu Ala Cys Phe Ser Gly
 180 185 190
 Lys Lys Gln Lys His Tyr Pro Tyr
 195 200

<210> 3639

<211> 726

<212> DNA

<213> Homo sapiens

<400> 3639
 attcggcagc agattcttga caatttttct ttatacttta atgagtgtgc gtttctctta
 60
 aagaataagc tttatataat atacacccat aataccttca aatacatttt taagcactta
 120
 aagactaaca gtggttatct ctcagcggga ttataaatgt ttggtttttt tttttttttt
 180
 tgtacatttt agtatttttt gaaatttttt taataagcgt gtattacata cagtaaacaa
 240
 aagcacatta atgtaggcag attatcaatg ttatgcattt cactgattgc atatctcttt
 300
 ttttatcaat ggtgaacatt gcaaatgatt gatacgtttt tcttaggaag tggcattgcc
 360
 acaaatgggt tttccaacac cagcagggcc tgagagtgtc atcaccatac actcttgccg
 420
 gcaataaaaa aatttcacct ttaaatggat ttaaaaggga aaagtggggg tgttgggttc
 480
 tccagggcatt ttctttcatt atgagtgaaca tttttctgaa aggaacgtga tctcgttttc
 540
 tagccgcgat aagcatttct ccaacaagac ccactgtacc agtcttggga tctccacacc
 600
 tgtgccttct cctgtctctt tctaggtctt gattctcacc tctgcctgtg taataaccct
 660
 gtcatcttct ccttatccca gtcccatgtc tgtgacaagc ttggaggccg agttgcaagc
 720
 taagat
 726

<210> 3640
 <211> 102
 <212> PRT
 <213> Homo sapiens

<400> 3640
 Met Leu His Ala Ala Arg Lys Arg Asp His Val Pro Phe Arg Lys Met
 1 5 10 15
 Ser Leu Ile Met Lys Glu Met Pro Trp Arg Thr Gln His Pro Asn Phe
 20 25 30
 Ser Leu Leu Asn Pro Leu Lys Gly Glu Ile Phe Leu Leu Pro Ala Arg
 35 40 45
 Val Tyr Gly Asp Asp Thr Leu Arg Pro Cys Trp Cys Trp Lys Asn His
 50 55 60
 Leu Trp Gln Cys His Phe Leu Arg Lys Thr Tyr Gln Ser Phe Ala Met
 65 70 75 80
 Phe Thr Ile Asp Lys Lys Arg Asp Met Gln Ser Val Lys Cys Ile Thr
 85 90 95
 Leu Ile Ile Cys Leu His
 100

<210> 3641
 <211> 455
 <212> DNA
 <213> Homo sapiens

<400> 3641
 gtgcaccagc tatggcgagc ccgctcgtcc tcgcccccttc ccgcccagcg ggccaactgc
 60
 cgcggggggcg ggcgggscgt gcggctcccg gaggcgagga aatgtcgagc agccccgagg
 120
 agtccccggag cagtcacgcg agccgggacc ttgccccgct ggaacgcaga agcggccgtg
 180
 gagctcgaga cgtcgcgcg ctcacctcct gggccccctgt gcgtggggaa gtcaggaaga
 240
 agacgcccag tgaggtcacg gtgcccacga ggggtggatc ccctcgccct gaccacgcca
 300
 ggaggtggcc gaagggaaga ggggtgggca ggggctgctc tgacacctct agcagagcgg
 360
 catccctgca ggtgtttgct ctggcgagga gaagccccag agagcagttc gggactgtgc
 420
 ggattggctt tagggagcca gcttttaaaa cgcgt
 455

<210> 3642
 <211> 148
 <212> PRT
 <213> Homo sapiens

<400> 3642
 Met Ala Gln Pro Leu Val Leu Ala Pro Ser Arg Arg Pro Gly Gln Leu
 1 5 10 15
 Pro Arg Gly Arg Ala Gly Gly Ala Ala Pro Gly Gly Glu Glu Met Ser
 20 25 30
 Gln Ser Pro Glu Glu Ser Arg Ser Ser His Ala Ser Arg Asp Leu Ala
 35 40 45
 Pro Leu Glu Arg Arg Ser Gly Arg Gly Ala Arg Asp Ala Arg Ala Leu
 50 55 60
 Thr Ser Trp Ala Pro Val Arg Gly Glu Val Arg Lys Lys Thr Pro Ser
 65 70 75 80
 Glu Val Thr Val Pro Thr Arg Val Asp Ser Pro Arg Pro Asp His Ala
 85 90 95
 Arg Arg Trp Pro Lys Gly Arg Gly Trp Gly Arg Gly Cys Ser Ala Pro
 100 105 110
 Ser Ser Arg Ala Ala Ser Leu Gln Val Phe Ala Leu Ala Arg Arg Ser
 115 120 125
 Pro Arg Glu Gln Phe Gly Thr Val Arg Ile Gly Phe Arg Glu Pro Ala
 130 135 140
 Phe Lys Thr Arg
 145

<210> 3643
 <211> 2243
 <212> DNA
 <213> Homo sapiens

<400> 3643
 nngggatatag agtctccctg gcccataata ggtctccact attggctggg ggagcgcttc
 60

ttcaagatct tccactgct gggtttgcat gaggaggat taagaaagt ctcggagtac
120
ctttgcaagc aggtggccag taaagctgag gagaatctgc tcatggtgct ggggacagac
180
atgagtgatc ggagagctgc agtcatcttt gcagatacac ttactcttct gtttgaaggg
240
attgcccgcg ttgtggagac ccaccagcca atagtggaga cctattatgg gccagggaga
300
ctctataccc tgatcaaata tctgcagggtg gaatgtgaca gacaggtgga gaaggtggtg
360
gacaagtcca tcaagcaaag ggactaccac cagcagttcc ggcatgttca gaacaacctg
420
atgagaaaatt ctacaacaga aaaaatcgaa ccaagagaac tggaccccat cctgactgag
480
gtcaccttga tgaatgcccg cagtgcagcta tacttacgct tcctcaagaa gaggattagc
540
tctgattttg aggtgggaga ctccatggcc tcagaggaag taaagcaaga gcaccagaag
600
tgtctggaca aactcctcaa taactgcctt ttgagctgta ccatgcagga gctaattggc
660
ttatatgtta ccatggagga gtacttcctg agggagactg tcaataaggc tgtggctctg
720
gacacctatg agaagggcca gctgacatcc agcatggtgg atgatgtctt ctacattgtt
780
aagaagtcca ttggggcgcc tctgtccagc tccagcattg actgtctctg tgccatgac
840
aacctcgcca ccacagagct ggagtcctgac ttcagggtatg ttctgtgtaa taagctgcgg
900
atgggctttc ctgccaccac cttccaggac atccagcgcg gggtgacaag tgccgtgaac
960
atcatgcaca gcagcctcca gcaaggcaaa ttgacacaa aaggcatcga gactactgac
1020
gaggcgaaga tgtcttctct ggtgactctg aacaacgtgg aagtctgcag tgaaaacatc
1080
tccactctga agaagacact ggagagtgac tgcaccaagc tcttcagcca gggcattgga
1140
ggggagcagg cccaggccaa gtttgacagc tgcctttctg acttggccgc cgtgtccaac
1200
aaattccgag acctcttgca ggaagggtg acggagctca acagcacagc catcaagcca
1260
caggtgcagc cttggatcaa cagcttttct tccgtctccc acaacatcga ggaggaagaa
1320
ttcaatgact atgaggccaa cgacccttgg gtacaacagt tcatccttaa cctggagcag
1380
caaattggcag agttcaaggc cagcctgtcc cgggtcatct acgacagcct aaccggcctc
1440
atgactagcc ttgttgccgt cgagttggag aaagtgggtg tgaatccac ctttaaccgg
1500
ctgggtggtc tgcagtttga caaggagctg aggtcactca ttgcctacct taccacggtg
1560
accacctgga ccatcogaga caagtttgcc cggctctccc agatggccac catcctcaat
1620
ctggagcggg tgaccgagat cctcgattac tggggaccca attccggccc attgacgtgg
1680

cgccctcaccc ctgctgaagt gcgccagggtg ctggccctgc ggatagactt ccgcagttaa
 1740
 gatatcaaga ggctgcgcct gtagctgcct ggatgagcac acctgggtca tcacacttgc
 1800
 aggcctgttc cctaaggggc cccagccaag gagctgagcg aggtctgtctg gcttggggga
 1860
 gatctgacag cccagacctt tctacggctg gcagcagaga aacaaagtct ggacccactc
 1920
 catgctctgc cctcagacct ggcagggtga tgcctgggg gcagcatctc cccaccgaga
 1980
 gaagcgggct cctaagtagg tgggaaagcc acggcaggca gcgagcagcc caggccagct
 2040
 ttctgcattg atggtcagtc tcttcccctc aaactactaca gcaacaagc tacccttgcc
 2100
 agtccttagac aacttgggta catctgggga cctagcagtt aggccttgact ttgaggagag
 2160
 gctgtgatgt ttatgatccc tgaataaagc tactccttgg agaaaaaaaa aaaaaaaaaa
 2220
 aaaaaaaaaa aaaaaaaaaa aaa
 2243

<210> 3644
 <211> 560
 <212> PRT
 <213> Homo sapiens

<400> 3644
 Gly Leu His Glu Glu Gly Leu Arg Lys Phe Ser Glu Tyr Leu Cys Lys
 1 5 10 15
 Gln Val Ala Ser Lys Ala Glu Glu Asn Leu Leu Met Val Leu Gly Thr
 20 25 30
 Asp Met Ser Asp Arg Arg Ala Ala Val Ile Phe Ala Asp Thr Leu Thr
 35 40 45
 Leu Leu Phe Glu Gly Ile Ala Arg Ile Val Glu Thr His Gln Pro Ile
 50 55 60
 Val Glu Thr Tyr Tyr Gly Pro Gly Arg Leu Tyr Thr Leu Ile Lys Tyr
 65 70 75 80
 Leu Gln Val Glu Cys Asp Arg Gln Val Glu Lys Val Val Asp Lys Phe
 85 90 95
 Ile Lys Gln Arg Asp Tyr His Gln Gln Phe Arg His Val Gln Asn Asn
 100 105 110
 Leu Met Arg Asn Ser Thr Thr Glu Lys Ile Glu Pro Arg Glu Leu Asp
 115 120 125
 Pro Ile Leu Thr Glu Val Thr Leu Met Asn Ala Arg Ser Glu Leu Tyr
 130 135 140
 Leu Arg Phe Leu Lys Lys Arg Ile Ser Ser Asp Phe Glu Val Gly Asp
 145 150 155 160
 Ser Met Ala Ser Glu Glu Val Lys Gln Glu His Gln Lys Cys Leu Asp
 165 170 175
 Lys Leu Leu Asn Asn Cys Leu Leu Ser Cys Thr Met Gln Glu Leu Ile
 180 185 190
 Gly Leu Tyr Val Thr Met Glu Glu Tyr Phe Met Arg Glu Thr Val Asn
 195 200 205
 Lys Ala Val Ala Leu Asp Thr Tyr Glu Lys Gly Gln Leu Thr Ser Ser

```

      210              215              220
Met Val Asp Asp Val Phe Tyr Ile Val Lys Lys Cys Ile Gly Arg Ala
225              230              235              240
Leu Ser Ser Ser Ser Ile Asp Cys Leu Cys Ala Met Ile Asn Leu Ala
      245              250              255
Thr Thr Glu Leu Glu Ser Asp Phe Arg Asp Val Leu Cys Asn Lys Leu
      260              265              270
Arg Met Gly Phe Pro Ala Thr Thr Phe Gln Asp Ile Gln Arg Gly Val
      275              280              285
Thr Ser Ala Val Asn Ile Met His Ser Ser Leu Gln Gln Gly Lys Phe
      290              295              300
Asp Thr Lys Gly Ile Glu Ser Thr Asp Glu Ala Lys Met Ser Phe Leu
      305              310              315              320
Val Thr Leu Asn Asn Val Glu Val Cys Ser Glu Asn Ile Ser Thr Leu
      325              330              335
Lys Lys Thr Leu Glu Ser Asp Cys Thr Lys Leu Phe Ser Gln Gly Ile
      340              345              350
Gly Gly Glu Gln Ala Gln Ala Lys Phe Asp Ser Cys Leu Ser Asp Leu
      355              360              365
Ala Ala Val Ser Asn Lys Phe Arg Asp Leu Leu Gln Glu Gly Leu Thr
      370              375              380
Glu Leu Asn Ser Thr Ala Ile Lys Pro Gln Val Gln Pro Trp Ile Asn
      385              390              395              400
Ser Phe Phe Ser Val Ser His Asn Ile Glu Glu Glu Glu Phe Asn Asp
      405              410              415
Tyr Glu Ala Asn Asp Pro Trp Val Gln Gln Phe Ile Leu Asn Leu Glu
      420              425              430
Gln Gln Met Ala Glu Phe Lys Ala Ser Leu Ser Pro Val Ile Tyr Asp
      435              440              445
Ser Leu Thr Gly Leu Met Thr Ser Leu Val Ala Val Glu Leu Glu Lys
      450              455              460
Val Val Leu Lys Ser Thr Phe Asn Arg Leu Gly Gly Leu Gln Phe Asp
      465              470              475              480
Lys Glu Leu Arg Ser Leu Ile Ala Tyr Leu Thr Thr Val Thr Thr Trp
      485              490              495
Thr Ile Arg Asp Lys Phe Ala Arg Leu Ser Gln Met Ala Thr Ile Leu
      500              505              510
Asn Leu Glu Arg Val Thr Glu Ile Leu Asp Tyr Trp Gly Pro Asn Ser
      515              520              525
Gly Pro Leu Thr Trp Arg Leu Thr Pro Ala Glu Val Arg Gln Val Leu
      530              535              540
Ala Leu Arg Ile Asp Phe Arg Ser Glu Asp Ile Lys Arg Leu Arg Leu
      545              550              555              560

```

<210> 3645

<211> 823

<212> DNA

<213> Homo sapiens

<400> 3645

acgcgtacat gggcagggtgg tagcgggttat agtgcaggta gtcaagagtg cttctctcca

60

ccagggtttt gtagatggat tcctcaaaaa ctcttttgag gtattgcctg ggcttctcag

120

tcgggttgat ttcctcatct tctatttgat gggctaactg ctctatggaa ggaagatctt
 180
 cctcctcctt ggaggctaag atttgcgta actctttcct gagatcaata aaacgatcgt
 240
 ggaacagggc caggcaccac ggctcgggtga agtagctata gagatctgtg atcagggtttt
 300
 catcgtaccg agcacacagg ttgttgagga gttgctcgtg ctggccaaac aagcggatgt
 360
 agttggaggc ggggaagggc tccctagaaa ggcacgtgat gggttccacc attttatact
 420
 tgtaaatatg aattcggaag taagtcccat ttttcgcact gccggttact agttctaaac
 480
 cataattagg ctggggcatt tgtacctcca agggagttgg aatggcaggc ttggcaatat
 540
 gcagataatg gtaagacca ggaagaatgc ccccttgaat cttggctccc ttgtacatgg
 600
 ggatgagccg gtcaagatta gctgttggtc cggtcacagg ctcaaggggtt ggatcaaaga
 660
 gatgtagcat agctgctgcc agctgaaagc caatttcttt ggaactgaag ttgctggtgg
 720
 gccattcat ttgagtagta tctattggag aatttggtga gggagccagg agctctgatg
 780
 gctatgtcgt tgggtgtggaa gttggtatca atcacaagtc gac
 823

<210> 3646

<211> 243

<212> PRT

<213> Homo sapiens

<400> 3646

Met Asn Gly Pro Thr Ser Asn Phe Ser Ser Lys Glu Ile Gly Phe Gln
 1 5 10 15
 Leu Ala Ala Ala Met Leu His Leu Phe Asp Pro Thr Leu Glu Pro Val
 20 25 30
 Thr Glu Pro Pro Ala Asn Leu Asp Arg Leu Ile Pro Met Tyr Lys Gly
 35 40 45
 Ala Lys Ile Gln Gly Gly Ile Leu Pro Gly Ser Tyr His Tyr Leu His
 50 55 60
 Ile Ala Lys Pro Ala Ile Pro Thr Pro Leu Glu Val Gln Met Ala Gln
 65 70 75 80
 Pro Asn Tyr Gly Leu Glu Leu Val Thr Gly Ser Ala Lys Asn Gly Thr
 85 90 95
 Tyr Phe Arg Ile His Ile Asn Lys Tyr Lys Met Val Glu Thr Ile Thr
 100 105 110
 Cys Leu Ser Arg Glu Pro Phe Pro Ala Ser Asn Tyr Ile Arg Leu Phe
 115 120 125
 Gly Gln His Glu Gln Leu Leu Asn Asn Leu Cys Ala Arg Tyr Asp Glu
 130 135 140
 Asn Leu Ile Thr Asp Leu Tyr Ser Tyr Phe Thr Glu Pro Trp Cys Leu
 145 150 155 160
 Ala Leu Phe His Asp Arg Phe Ile Asp Leu Arg Lys Glu Leu Arg Gln
 165 170 175
 Ile Leu Ala Ser Lys Glu Glu Glu Asp Leu Pro Ser Ile Glu Gln Leu

```

      180      185      190
Ala His Gln Ile Glu Asp Glu Glu Ile Asn Pro Thr Glu Lys Pro Arg
      195      200      205
Gln Tyr Leu Lys Arg Val Phe Glu Glu Ser Ile Tyr Lys Thr Leu Val
      210      215      220
Glu Arg Ser Thr Leu Asp Tyr Leu His Tyr Asn Arg Tyr His Leu Pro
      225      230      235      240
Met Tyr Ala

```

<210> 3647
 <211> 584
 <212> DNA
 <213> Homo sapiens

```

<400> 3647
acgcgtcggg cgagcgccgc gcctacgggc ccccttttct gcgcgaccgc gtggctgtgg
60
gcgcggatgc ctttgagcgc ggtgacttct cactgcgtat cgagccgctg gaggtcgccg
120
acgagggcac ctactcctgc caccctgacc accattactg tggcctgcac gaacgccgcg
180
tcttccacct gacggtcgcc gaaccccacg cggagccgcc cccccggggc tctccgggca
240
acggctccag ccacagcggc gcccccaggc caggtgaagg aggcctccct gggacccggg
300
aaggcgggag cccacccac cggggggtgc tctgcgccg ctgtcccttg cccgaggccc
360
gcggatccca gcgggnnggc cgtggcccg gtcggggcgc aggtcttgc ggtacctgac
420
gccgctccga ccccgcttc cccgcagacc ccacactggc gcgcggccac aacgtcatca
480
atgtcatcgt ccccgagagc cgagccact tcttccagca gctgggctac gtgctggcca
540
cgctgctgct cttcatcctg ctactggtca ctgtcctcct ggcc
584

```

<210> 3648
 <211> 63
 <212> PRT
 <213> Homo sapiens

```

<400> 3648
Thr Arg Arg Ala Ser Ala Ala Pro Thr Gly Pro Phe Phe Cys Ala Thr
1      5      10      15
Ala Trp Leu Trp Ala Arg Met Pro Leu Ser Ala Val Thr Ser His Cys
20     25     30
Val Ser Ser Arg Trp Arg Ser Pro Thr Arg Ala Pro Thr Pro Ala Thr
35     40     45
Cys Thr Thr Ile Thr Val Ala Cys Thr Asn Ala Ala Ser Ser Thr
50     55     60

```

<210> 3649
 <211> 648

<212> DNA

<213> Homo sapiens

<400> 3649

naaaaataat gcagacataa aatgaaaaa gattgaagat tgttacagag aaataggtga
 60
 ggaagcatga tactgaaggc ttgtcactcc tgttttcact tccacacaga caagcatatt
 120
 tgctcattgt ttgctgtgct cccctttttt ttccagggtg ctattttctgc agatgtcaaa
 180
 gaagttctgt taactgatgg gaatgaaaag gccatcagaa atgtgcaaga catcatcaca
 240
 aggaatcaga aggtcgtgtg gtttaagacc cagaaaatat caagctgcgt ttacgatgg
 300
 gataatgaga cagatgtctc tcaactggaa ggacattttg acattgttat gtgtgctgac
 360
 tgccctgtttc tggaccagta cagagccagc cttgttgatg caataaagag attactccag
 420
 cccaggggga aagcgatggt atttgcccca cgccgaggga atacttttaa ccagttttgc
 480
 aatctagctg aaaaagctgg tttctgtatc caaagacatg aaaattatga tgaacacatt
 540
 tcaaaacttcc actccaagtt gaaaaaggaa aacccggaca tatatgaaga aaaccttcat
 600
 taccgcctc tgcttatttt gaccaaacat ggatagaaga ttaagctt
 648

<210> 3650

<211> 189

<212> PRT

<213> Homo sapiens

<400> 3650

Met Ile Leu Lys Ala Cys His Ser Cys Phe His Phe His Thr Asp Lys
 1 5 10 15
 His Ile Cys Ser Leu Phe Ala Val Leu Pro Phe Phe Phe Gln Val Ala
 20 25 30
 Ile Ser Ala Asp Val Lys Glu Val Leu Leu Thr Asp Gly Asn Glu Lys
 35 40 45
 Ala Ile Arg Asn Val Gln Asp Ile Ile Thr Arg Asn Gln Lys Ala Gly
 50 55 60
 Val Phe Lys Thr Gln Lys Ile Ser Ser Cys Val Leu Arg Trp Asp Asn
 65 70 75 80
 Glu Thr Asp Val Ser Gln Leu Glu Gly His Phe Asp Ile Val Met Cys
 85 90 95
 Ala Asp Cys Leu Phe Leu Asp Gln Tyr Arg Ala Ser Leu Val Asp Ala
 100 105 110
 Ile Lys Arg Leu Leu Gln Pro Arg Gly Lys Ala Met Val Phe Ala Pro
 115 120 125
 Arg Arg Gly Asn Thr Leu Asn Gln Phe Cys Asn Leu Ala Glu Lys Ala
 130 135 140
 Gly Phe Cys Ile Gln Arg His Glu Asn Tyr Asp Glu His Ile Ser Asn
 145 150 155 160
 Phe His Ser Lys Leu Lys Lys Glu Asn Pro Asp Ile Tyr Glu Glu Asn

165 170 175
 Leu His Tyr Pro Pro Leu Leu Ile Leu Thr Lys His Gly
 180 185
 <210> 3651
 <211> 2469
 <212> DNA
 <213> Homo sapiens
 <400> 3651
 ggctgtaccg gaacgtgggg cgaggcgctg ttcacaaag aaaaagggtt cttttgggtca
 60
 cccaccactg gcccattggc tgccgtgcag atggatcctg agctagccaa gcgcctcttc
 120
 ttggaagggg cactgttgt catcctgaac atgcccaagg gaacagagtt tgggattgac
 180
 tataactcct gggaggtcgg gcccaagtgc cggggcgtga agatgatccc tccaggcatc
 240
 cacttcctcc actacagctc tgtggacaag gctaatacga aggaagtagg ccctcgtatg
 300
 ggtttcttcc tttagcctgca ccagcggggg ctgacagtgc tgcgtggag cacactcagg
 360
 gaagaggtag acctgtcccc agccccagag tctgaggtgg aggccatgag ggccaacctc
 420
 caggagctgg accagttcct ggggccttac ccatatgcca ccctgaagaa gtggatctca
 480
 ctcaccaact tcacagcga agccacagtg gagaagctac agcccagaaa tcgacagatc
 540
 tgtgcctttt ccgatgtgct acctgtgctc tccatgaagc acaccaagga ccgcgtgggg
 600
 cagaatctac cccgctgtgg cattgagtgc aaaagctacc aagagggcct ggcccggcta
 660
 ccagagatga agcccagagc cgggacagag atccgcttct cagagctgcc cagcagatg
 720
 ttcccagagg gtgccacgcc agctgagata accaagcaca gcatggacct gagctatgcc
 780
 ctggagactg tgctcatcaa gcagttcccc agcagcccc aggatgtgct tggatgaactc
 840
 cagtttgctt ttgtgtgctt cctgctgggg aatgtgtacg aggcatttga gcattggaag
 900
 cggtcctgc acctcctgtg ccggtcagaa gcagccatga tgaagcacca caccctctac
 960
 atcaacctca tgccatcct gtaccaccag ctgtgtgaga tccccgctga cttcttcgta
 1020
 gacattgtct cccaagacaa ctctctcacc agcaccttac aggttttctt ttctctgccc
 1080
 tgcagcattg ccgtggatgc caccctgaga aagaagctg aaaagtcca agctcacctg
 1140
 accaagaagt tccggtggga ctttgcctgc gaacctgagg actgtgcccc ggtggtgggtg
 1200
 gagctccccg agggcatcga gatgggctaa ctccggggagc gctctcagct gcgagggggcc
 1260
 ccttcccaca gggctgcagt cctggcctct ccatttactt ctccccatcc tgggacctgc
 1320

cagggcagca atctctccag gtcctgcaaa gatggagcca gaattccctt tttcactgat
 1380
 aaatatatctt ctctcattgcc aaagaggctg taccatcctt gaaggcacat ttgtgggttc
 1440
 cccatcagcc aggccttggt gctaacctgg ctgaatttca cacaggctct tacacacaca
 1500
 cgctcctagg agacatctgc ctacacggca accatatttc ctctgaatga gaaggaattg
 1560
 aaccaaaagt ccaagaaaga actgattgtt tgttccatag gagcttagga aacaagaaac
 1620
 cctggattgc ccaggggggc tgagaagttg gttgggtgact ttttttgccg ttaaatgaag
 1680
 ggtgatgggg agatcagccc gaattgccgc ctgcctcttg ctaaatagga gcagaggact
 1740
 tggcctgcag ctccctggga gcccttgatt gggaagagag tttcaaggga ggcagctgga
 1800
 ttcaatctag cagggtggtca gcttcagctt tctccatcga aatcccatc tctgtccag
 1860
 aggcccatgt ggtcatctcc caaggtgggt gtggaccctg gcctcagagg ccttgctggt
 1920
 gctgtcacct cccacctgtt ccattccgag gcctcaccca gaagtgggac cctcccttcc
 1980
 ctccaccagag ccaccgtgac tgtttctgat gacctggaga gtcaacaaca accagaaagg
 2040
 tttctgcccc gagcaggctt cttaaggcct ttacgaagtt ttgtgccttc caagtgtgta
 2100
 agaagacctg gtcagcctaa atcttcccag tcccgctgtg gagctgtcag tcaccggagt
 2160
 aatgagctcc tgggtcctcg ggagtccttc gtgctgtgtg gcaggggttc tctctagaca
 2220
 agtacacagg ccctgccacc ctgacatcaa actgtgtgtac tatgatcaca gtccctgtgc
 2280
 catccttttc caagactggg gctcacacca tgtttttgaa tgagaatccc tgctggttga
 2340
 gacttttget tccacttggt tccttgaga tgtttttcca agagcataat gtacattaaa
 2400
 gtcttcgagt tgagacaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa
 2460
 aaaaaaaaaa
 2469

<210> 3652

<211> 384

<212> PRT

<213> Homo sapiens

<400> 3652

Met Ala Ala Val Gln Met Asp Pro Glu Leu Ala Lys Arg Leu Phe Phe
 1 5 10 15
 Glu Gly Ala Thr Val Val Ile Leu Asn Met Pro Lys Gly Thr Glu Phe
 20 25 30
 Gly Ile Asp Tyr Asn Ser Trp Glu Val Gly Pro Lys Phe Arg Gly Val
 35 40 45
 Lys Met Ile Pro Pro Gly Ile His Phe Leu His Tyr Ser Ser Val Asp

50 55 60
 Lys Ala Asn Pro Lys Glu Val Gly Pro Arg Met Gly Phe Phe Leu Ser
 65 70 75 80
 Leu His Gln Arg Gly Leu Thr Val Leu Arg Trp Ser Thr Leu Arg Glu
 85 90 95
 Glu Val Asp Leu Ser Pro Ala Pro Glu Ser Glu Val Glu Ala Met Arg
 100 105 110
 Ala Asn Leu Gln Glu Leu Asp Gln Phe Leu Gly Pro Tyr Pro Tyr Ala
 115 120 125
 Thr Leu Lys Lys Trp Ile Ser Leu Thr Asn Phe Ile Ser Glu Ala Thr
 130 135 140
 Val Glu Lys Leu Gln Pro Glu Asn Arg Gln Ile Cys Ala Phe Ser Asp
 145 150 155 160
 Val Leu Pro Val Leu Ser Met Lys His Thr Lys Asp Arg Val Gly Gln
 165 170 175
 Asn Leu Pro Arg Cys Gly Ile Glu Cys Lys Ser Tyr Gln Glu Gly Leu
 180 185 190
 Ala Arg Leu Pro Glu Met Lys Pro Arg Ala Gly Thr Glu Ile Arg Phe
 195 200 205
 Ser Glu Leu Pro Thr Gln Met Phe Pro Glu Gly Ala Thr Pro Ala Glu
 210 215 220
 Ile Thr Lys His Ser Met Asp Leu Ser Tyr Ala Leu Glu Thr Val Leu
 225 230 235 240
 Ile Lys Gln Phe Pro Ser Ser Pro Gln Asp Val Leu Gly Glu Leu Gln
 245 250 255
 Phe Ala Phe Val Cys Phe Leu Leu Gly Asn Val Tyr Glu Ala Phe Glu
 260 265 270
 His Trp Lys Arg Leu Leu His Leu Leu Cys Arg Ser Glu Ala Ala Met
 275 280 285
 Met Lys His His Thr Leu Tyr Ile Asn Leu Met Ser Ile Leu Tyr His
 290 295 300
 Gln Leu Gly Glu Ile Pro Ala Asp Phe Phe Val Asp Ile Val Ser Gln
 305 310 315 320
 Asp Asn Phe Leu Thr Ser Thr Leu Gln Val Phe Phe Ser Ser Ala Cys
 325 330 335
 Ser Ile Ala Val Asp Ala Thr Leu Arg Lys Lys Ala Glu Lys Phe Gln
 340 345 350
 Ala His Leu Thr Lys Lys Phe Arg Trp Asp Phe Ala Ala Glu Pro Glu
 355 360 365
 Asp Cys Ala Pro Val Val Val Glu Leu Pro Glu Gly Ile Glu Met Gly
 370 375 380

<210> 3653

<211> 283

<212> DNA

<213> Homo sapiens

<400> 3653

ncaaagagca aggggtggatg ccccaggcca gccccaggagc ttggcgccac tggaggaagt
 60
 gcattatacc aatcagagct tcttttgctg ctgctgaaat ggaacgggtgc catcaggccg
 120
 tcttctccac tggagatgct ccttcagctc agcaggacgc tagctcgga ctcagactgc
 180

acattttttgc ggattgggag gagggccgac gccgtggccg gatagtctct ggagctgcct
 240
 tttgggggtg tttgcctgtt ggcatattca gtactccacg cgt
 283

<210> 3654
 <211> 88
 <212> PRT
 <213> Homo sapiens

<400> 3654
 Met Pro Gln Ala Ser Pro Gly Ala Trp Arg His Trp Arg Lys Cys Ile
 1 5 10 15
 Ile Pro Ile Arg Ala Ser Phe Ala Ala Ala Glu Met Glu Arg Cys His
 20 25 30
 Gln Ala Val Phe Ser Thr Gly Asp Ala Pro Ser Ala Gln Gln Asp Ala
 35 40 45
 Ser Ser Glu Leu Arg Leu His Ile Phe Ala Asp Trp Glu Glu Gly Arg
 50 55 60
 Arg Arg Gly Arg Ile Val Ser Gly Ala Ala Phe Trp Gly Cys Leu Pro
 65 70 75 80
 Val Gly Ile Phe Ser Thr Pro Arg
 85

<210> 3655
 <211> 3477
 <212> DNA
 <213> Homo sapiens

<400> 3655
 nttttttttt tttttttttt tttttttttt tttttttttt ttttgcactg attcagactt
 60
 taatggagggt gctcatttca atgccacaga ggtgggtggca actgtggaac gtggcatggg
 120
 gagtggagggt ttgctctggt gcagctggag gaagaacagg gaacctagggt ttggggagag
 180
 atgtatagag gaaaaactccc ccaggcacac agcctccgct ctggaccaac gcaggcttca
 240
 gtgagtacac acaaaggaaac tgatgtcaag gccctttcta tgaccttcc cattctagca
 300
 agacctccca cccagtcacat cttgggatct acagccacat gaaatacaga cacatcgttc
 360
 cccaagtca ggccagtttt aggccattga gttatgggga aatgattaat gggatgaatg
 420
 aaaaacaaat aaaataaata aataaataaa tacactaaag ccttattagc caggcgtgat
 480
 cacatgcccc acactcccct ccattcccagc actatgcaca gttcacgggt catatgcaaa
 540
 gtggaagaca cgtgggacaa gagcaaaagca caagtgcac atgggtccctc tctaacacct
 600
 cagcacacca accctgacgc tcccatcaca gatgctgac attcttccac ggacccccct
 660
 ttataataat cctcattcac atttctagtt tctgaggga gagagaaaga gaaaggaaga
 720

agtggaaagt gcggaacccc aatgagtagg gcacagaaag gagggcgagc agagacagca
780
agagggtcagg taagccaagg agcagcggag caggtcaatc agggaaagttc tgggcacccct
840
gggggtcagg ggatctcagg ggggtgaacta tcacagatca ggacagcaag gttccaggag
900
gatgagacag aggttccacg tctccaggca agcagaggaa tcacagcaca ctgggättac
960
ggaacttgcg tccagcaaac ttagccttgc tgcccaagag cctcttcaat tctgaggagt
1020
tggttgtatt tggccagacg ctccgagcgg cagggggcac cagtcttgat ctgtcctgtg
1080
cagagcccca ccacaaggtc agcaatgaat gtgtcctcag tctccccaga gcggtggctc
1140
accatcaccc cccagccatt ctctggggcc agcttgacg cctgaagaga ctgggtcacg
1200
gagccgatct ggttgacttt gagcaggagg cagttgcagg cttctcgtt cacggcccg
1260
tcaatacggt ttgggttggg cactgtgaga tcatcccca caatctggat tcttacattg
1320
gctgtgaact tctgccaagc tcccaatca tcttggtcaa atgggtctc aatggagacc
1380
actgggtagt ccctgacaaa gtcttggtag agtgcccca gctggtcccc agtgatgtac
1440
ctgctggggg cagtgggaga cttgaagtcc aagtcattt tgccatcacg ataaaaactcg
1500
gaggcagcaa catccatgcc gatgacaacc tggtcagtgt agccggcctt tgcgattgca
1560
gtcttcacca gctccagtgc ttctttgttc tccaggatgt taggtgcgaa tccaccttca
1620
tcaccacat tgggtggcatc cttcccgtac ttctccttga tgacccctt gagtgtatgg
1680
tagacctctg cacctagtgc catggcttcc ttgaaggagc tgggtccac aggcagaate
1740
atgaaactcct gcatggccag cttgtttcca gcatgggagc ccccgttgat cacattgaag
1800
gctgggactg ggagtatgag gtcaggggtc ccagccaagt cagcgatgtg gcggtacagg
1860
gggaccccc tctcaaaggc tgttgagcac atcaataaaa ctattgcgc tgccttggtt
1920
agcaagaaac tgaacgtcac agaacaagag aagattgaca aactgatgat cgagatggat
1980
ggaacagaaa ataatctaa gtttgggtgc aacgccattc tgggggtgtc ctttccgtc
2040
tgcaaagctg gtgccgttga gaaggggtc cccctgtacc gccacatgc tgacttggt
2100
ggcaactctg aagtcactct gccagtcctc gcgttcaatg tcatcaatgg cggttctcat
2160
gctgggaaca agctggccat gcaggagttc atgatectc cagtcggtgc agcaaaactc
2220
agggaaagcca tgcgatttg agcagaggtt taccacaacc tgaagaatgt catcaaggag
2280
aaatatggga aagatgccac caatgtgggg gatgaaggcg ggtttgctcc caacatcctg
2340

gagaataaag aaggcctgga gctgctgaag actgctattg ggaaagctgg ctacactgat
 2400
 aagggtggta tcggcatgga cgtagcggcc tccgagttct tcaggctctgg gaagtatgac
 2460
 ctggacttca agtctcccga tgaccccagc aggtacatct cgcctgacca gctgggtgac
 2520
 ctgtacaagt ccttcacaa ggactaccca gtggtgtcta tcgaagatcc ctttgaccag
 2580
 gatgactggg gagcttgga gaagttcaca gccagtgcag gaatccaggt agtgggggat
 2640
 gatctcacag tgaccaaccc caagaggatc gcccaggccg tgaacgagaa gtctgcaac
 2700
 tgcttcctgc tcaaagtc aaagattggc tccgtgaccg agtctcttca ggcgtgcaag
 2760
 ctggcccagg ccaatggttg gggcgtcatg gtgtctcatc gttcggggga gactgaagat
 2820
 accttcacg ctgacctggt tgtggggctg tgcactgggc agatcaagac tggtgccct
 2880
 tgccgatctg agcgttgga caagtacaac cagctcctca gaattgaaga ggagctggg
 2940
 agcaaggcta agtttgccg caggaacttc agaaaccctc tggccaagta agctgtggg
 3000
 aggcaagccc ttcggtcacc tgttggtctac acagaccctc cccctcgtgt cagctcaggc
 3060
 agctcaggc ccccgaccaa cacttgccag ggtccctgct agttagcgc ccaccgccgt
 3120
 ggagttcga ccgcttcctt agaacttcta cagaagcaa gctccctgga gccctgttg
 3180
 cagctctagc ttgtagtcg tgtaattggc ccaagtcat gtttttctcg cctcacttcc
 3240
 caccaagtgt ctagagtcac gtgagcctcg tgcactctcc ggggtggcca caggctagat
 3300
 ccccggtggt ttgtgtcaca aaataaaaag cctcagtgac ccataaaaaa aaaaaaaaaa
 3360
 actcgtgccg actcgtgccg aattcggaga ncccatgtcc ggagacccca cggctggcac
 3420
 ttcgggcccc gtatgacctg ggacctcgc gtcccagac ctctggggtc cctccgt
 3477

<210> 3656

<211> 429

<212> PRT

<213> Homo sapiens

<400> 3656

Met Ala Ser Leu Lys Glu Leu Ala Pro Thr Gly Arg Ile Met Asn Ser
 1 5 10 15
 Cys Met Ala Ser Leu Phe Pro Ala Trp Glu Pro Pro Leu Ile Thr Leu
 20 25 30
 Lys Ala Gly Thr Gly Ser Met Arg Ser Gly Phe Pro Ala Lys Ser Ala
 35 40 45
 Met Trp Arg Tyr Arg Gly Thr Pro Phe Ser Lys Ala Val Glu His Ile
 50 55 60
 Asn Lys Thr Ile Ala Pro Ala Leu Val Ser Lys Lys Leu Asn Val Thr

```

65      70      75      80
Glu Gln Glu Lys Ile Asp Lys Leu Met Ile Glu Met Asp Gly Thr Glu
      85      90      95
Asn Lys Ser Lys Phe Gly Ala Asn Ala Ile Leu Gly Val Ser Leu Ala
      100      105      110
Val Cys Lys Ala Gly Ala Val Glu Lys Gly Val Pro Leu Tyr Arg His
      115      120      125
Ile Ala Asp Leu Ala Gly Asn Ser Glu Val Ile Leu Pro Val Pro Ala
      130      135      140
Phe Asn Val Ile Asn Gly Gly Ser His Ala Gly Asn Lys Leu Ala Met
      145      150      155      160
Gln Glu Phe Met Ile Leu Pro Val Gly Ala Ala Asn Phe Arg Glu Ala
      165      170      175
Met Arg Ile Gly Ala Glu Val Tyr His Asn Leu Lys Asn Val Ile Lys
      180      185      190
Glu Lys Tyr Gly Lys Asp Ala Thr Asn Val Gly Asp Glu Gly Gly Phe
      195      200      205
Ala Pro Asn Ile Leu Glu Asn Lys Glu Gly Leu Glu Leu Lys Thr
      210      215      220
Ala Ile Gly Lys Ala Gly Tyr Thr Asp Lys Val Val Ile Gly Met Asp
      225      230      235      240
Val Ala Ala Ser Glu Phe Phe Arg Ser Gly Lys Tyr Asp Leu Asp Phe
      245      250      255
Lys Ser Pro Asp Asp Pro Ser Arg Tyr Ile Ser Pro Asp Gln Leu Ala
      260      265      270
Asp Leu Tyr Lys Ser Phe Ile Lys Asp Tyr Pro Val Val Ser Ile Glu
      275      280      285
Asp Pro Phe Asp Gln Asp Asp Trp Gly Ala Trp Gln Lys Phe Thr Ala
      290      295      300
Ser Ala Gly Ile Gln Val Val Gly Asp Asp Leu Thr Val Thr Asn Pro
      305      310      315      320
Lys Arg Ile Ala Gln Ala Val Asn Glu Lys Ser Cys Asn Cys Leu Leu
      325      330      335
Leu Lys Val Asn Gln Ile Gly Ser Val Thr Glu Ser Leu Gln Ala Cys
      340      345      350
Lys Leu Ala Gln Ala Asn Gly Trp Gly Val Met Val Ser His Arg Ser
      355      360      365
Gly Glu Thr Glu Asp Thr Phe Ile Ala Asp Leu Val Val Gly Leu Cys
      370      375      380
Thr Gly Gln Ile Lys Thr Gly Ala Pro Cys Arg Ser Glu Arg Leu Ala
      385      390      395      400
Lys Tyr Asn Gln Leu Leu Arg Ile Glu Glu Glu Leu Gly Ser Lys Ala
      405      410      415
Lys Phe Ala Gly Arg Asn Phe Arg Asn Pro Leu Ala Lys
      420      425

```

<210> 3657
 <211> 337
 <212> DNA
 <213> Homo sapiens

<400> 3657
 tgttacgtgt tcatttttga ctcaaggcgt acacgtgcag atgtgtcaca tgttcatttt
 60

cagctcaagg cgtacacgtg cagggtgtgtt acgtgttcat ttctgactca aggcgtacac
 120
 gtgcagatgt gtcacatgtt cattttcggc tcaaggcgta cacgtgcagg tgtgttacgt
 180
 gttcattttc ggctcaaggc ttacacgtgc aggtgtgcca catgttcatt ttcggtctca
 240
 ggcgtagatg tgcagggtgt ttacatgttc attgtcagct caacgcgtac acgtgcagg
 300
 gtgccacatg ttcattttcg gttcaaggcg tacgcgt
 337

<210> 3658
 <211> 99
 <212> PRT
 <213> Homo sapiens

<400> 3658
 Met Cys His Met Phe Ile Phe Ser Ser Arg Arg Thr Arg Ala Gly Val
 1 5 10 15
 Leu Arg Val His Phe Arg Leu Lys Ala Tyr Thr Cys Arg Cys Val Thr
 20 25 30
 Cys Ser Phe Ser Ala Gln Gly Val His Val Gln Val Cys Tyr Val Phe
 35 40 45
 Ile Phe Gly Ser Arg Leu Thr Arg Ala Gly Val Pro His Val His Phe
 50 55 60
 Arg Leu Lys Ala Tyr Met Cys Arg Cys Val Thr Cys Ser Leu Ser Ala
 65 70 75 80
 Gln Arg Val His Val Gln Val Cys His Met Phe Ile Phe Gly Ser Arg
 85 90 95
 Arg Thr Arg

<210> 3659
 <211> 1025
 <212> DNA
 <213> Homo sapiens

<400> 3659
 naagctttta ctgctgatgg tgatcaagtt ttgcaggac gttattatc atctgaaat
 60
 acaagaccta agttcctaag cagagatgtg gattctgaaa taagtgactt ggagaatgag
 120
 gttgaaaata agacggccca gatattaaat cttcagcaac atttatctgc ccttgaaaaa
 180
 gatattaaac acaatgagga acttcttaaa aggtgccaac tacattataa agaactaaag
 240
 atgaaaataa gaaaaaatat ttctgaaatt cgggaacttg agaacataga agaaccaccg
 300
 tctgtagata ttgcaacttt ggaagatgaa gctcaggaaa ataaaagcaa aatgaaaatg
 360
 gttgaggaac atatggagca acaaaaagaa aatatggagc atcttaaaag tctgaaaata
 420
 gaagcagaaa ataagtatga tgcaattaaa ttcaaaatta atcaactatc ggagctagca
 480

gaccacctta aggatgaatt aaaccttgct gattctgaag tggataacca aaaacgaggg
 540
 aaacgacatt atgaaaaaaaa acaaaaagaa cacttggata ccttaataaa aaagaaacga
 600
 gaactggata tgaagagaa agaactagag gagaaaatgt cacaagcaag acaaatctgc
 660
 ccagagcgta tagaagtaga aaaatctgca tcaattctgg acaagaaat taatcgatta
 720
 aggcagaaga tacaggcaga acatgctagt catggagatc gagaggaaat aatgaggcag
 780
 taccaagaag caagagagac ctatcttgat ctggatagta aagtgaggac tttaaaaaag
 840
 tttattaaat tactgggaga aatcatggag cacagattca agacatatca acaatttaga
 900
 aggtgtttga ctttacgatg caaattatac ttgacaact tactatctca gcgggcctat
 960
 tgtggaaaaa tgaattttga ccacaagaat gaaactctaa gtatatcagt tcagcctgga
 1020
 gaaaa
 1025

<210> 3660

<211> 341

<212> PRT

<213> Homo sapiens

<400> 3660

Xaa Ala Phe Thr Ala Asp Gly Asp Gln Val Phe Ala Gly Arg Tyr Tyr
 1 5 10 15
 Ser Ser Glu Asn Thr Arg Pro Lys Phe Leu Ser Arg Asp Val Asp Ser
 20 25 30
 Glu Ile Ser Asp Leu Glu Asn Glu Val Glu Asn Lys Thr Ala Gln Ile
 35 40 45
 Leu Asn Leu Gln Gln His Leu Ser Ala Leu Glu Lys Asp Ile Lys His
 50 55 60
 Asn Glu Glu Leu Leu Lys Arg Cys Gln Leu His Tyr Lys Glu Leu Lys
 65 70 75 80
 Met Lys Ile Arg Lys Asn Ile Ser Glu Ile Arg Glu Leu Glu Asn Ile
 85 90 95
 Glu Glu His Gln Ser Val Asp Ile Ala Thr Leu Glu Asp Glu Ala Gln
 100 105 110
 Glu Asn Lys Ser Lys Met Lys Met Val Glu Glu His Met Glu Gln Gln
 115 120 125
 Lys Glu Asn Met Glu His Leu Lys Ser Leu Lys Ile Glu Ala Glu Asn
 130 135 140
 Lys Tyr Asp Ala Ile Lys Phe Lys Ile Asn Gln Leu Ser Glu Leu Ala
 145 150 155 160
 Asp Pro Leu Lys Asp Glu Leu Asn Leu Ala Asp Ser Glu Val Asp Asn
 165 170 175
 Gln Lys Arg Gly Lys Arg His Tyr Glu Lys Lys Gln Lys Glu His Leu
 180 185 190
 Asp Thr Leu Asn Lys Lys Lys Arg Glu Leu Asp Met Lys Glu Lys Glu
 195 200 205
 Leu Glu Glu Lys Met Ser Gln Ala Arg Gln Ile Cys Pro Glu Arg Ile

```

      210              215              220
Glu Val Glu Lys Ser Ala Ser Ile Leu Asp Lys Glu Ile Asn Arg Leu
225              230              235              240
Arg Gln Lys Ile Gln Ala Glu His Ala Ser His Gly Asp Arg Glu Glu
      245              250              255
Ile Met Arg Gln Tyr Gln Glu Ala Arg Glu Thr Tyr Leu Asp Leu Asp
      260              265              270
Ser Lys Val Arg Thr Leu Lys Lys Phe Ile Lys Leu Leu Gly Glu Ile
      275              280              285
Met Glu His Arg Phe Lys Thr Tyr Gln Gln Phe Arg Arg Cys Leu Thr
      290              295              300
Leu Arg Cys Lys Leu Tyr Phe Asp Asn Leu Leu Ser Gln Arg Ala Tyr
305              310              315              320
Cys Gly Lys Met Asn Phe Asp His Lys Asn Glu Thr Leu Ser Ile Ser
      325              330              335
Val Gln Pro Gly Glu
      340

```

<210> 3661

<211> 1117

<212> DNA

<213> Homo sapiens

<400> 3661

```

gtgcactcgg attggcaaag cccgagtgagg ctgtctccac tgggttctgg gtcattcccc
60
tgtggcaaaa gctctcctcg catctgatac ttgggtcttc tcctcttttt ataaaacaat
120
ttagatccta gaatgtgcct ttccacaatg gcttcgtttc caattttcac tgttatttgg
180
caaagggggg caacattact attgtgggag gtccccggca gacagagttt tgcaatgtag
240
gtttcaattt tgetggtttc ttcagcaata ttgttggttt tgetcagtga tcctccagga
300
tcagcaacat agtttgactc ctccggtatt tctcccttgg tatgtgatgt agttttcttt
360
ttctccttaa tgettttggg tctgcttgca aacctaccca ctttatctgg ctggggctta
420
ctgtcatctt tcagggactg actgacagct gggctctgaa aggctctgtg gttgctgctg
480
gtcatggcag caatggcatt gctgtgcatg atcaccgatg aaaactggct gctgtgtaca
540
atgaccgagg gtgcagagcc actgtagctg atcacagagg cggcattctc actgctatta
600
ctcaaagata aaacaggtag atccccctgc cggagggtcag aactgacagc attttcagtg
660
gaagaaactg acacctcagt tgaataaaaag ttattgtcaa gatccatttt caatgcctcc
720
tctccccatt tggtagcttc tgcattttgt acattggcag aagtggttat gtctgacat
780
gcagatgttt ccaatgggat ggctggactg ttggtcaggg tgtttacagt atcttgaaa
840
ttcagcgttg gtaattcaga gctgtgtgga ttctgaacaa cataggtacc aggtgcagac
900

```


tcattcattt gactgttttc tcgtgcattt tcataggaag aatttcggta gctcttataa
 960
 ggggctctct tgcatttcat aggcagtagc ctataaagtt tatacggata gacactaggc
 1020
 ttcaagcctc catttgctgt ttttttactg atggaaagtc tatgatcgat ggcattggaaa
 1080
 gacttctgat gatttttgag tatatagtag gtcattga
 1117

<210> 3662
 <211> 371
 <212> PRT
 <213> Homo sapiens

<400> 3662
 Met Thr Tyr Tyr Ile Leu Lys Asn His Gln Lys Ser Phe His Ala Ile
 1 5 10 15
 Asp His Arg Leu Ser Ile Ser Lys Lys Thr Ala Asn Gly Gly Leu Lys
 20 25 30
 Pro Ser Val Tyr Pro Tyr Lys Leu Tyr Arg Leu Leu Pro Met Lys Cys
 35 40 45
 Lys Arg Ala Pro Tyr Lys Ser Tyr Arg Asn Ser Ser Tyr Glu Asn Ala
 50 55 60
 Arg Glu Asn Ser Gln Met Asn Glu Ser Ala Pro Gly Thr Tyr Val Val
 65 70 75 80
 Gln Asn Pro His Ser Ser Glu Leu Pro Thr Leu Asn Phe Gln Asp Thr
 85 90 95
 Val Asn Thr Leu Thr Asn Ser Pro Ala Ile Pro Leu Glu Thr Ser Ala
 100 105 110
 Cys Gln Asp Ile Pro Thr Ser Ala Asn Val Gln Asn Ala Glu Gly Thr
 115 120 125
 Lys Trp Gly Glu Glu Ala Leu Lys Met Asp Leu Asp Asn Asn Phe Tyr
 130 135 140
 Ser Thr Glu Val Ser Val Ser Ser Thr Glu Asn Ala Val Ser Ser Asp
 145 150 155 160
 Leu Arg Ala Gly Asp Val Pro Val Leu Ser Leu Ser Asn Ser Ser Glu
 165 170 175
 Asn Ala Ala Ser Val Ile Ser Tyr Ser Gly Ser Ala Pro Ser Val Ile
 180 185 190
 Val His Ser Ser Gln Phe Ser Ser Val Ile Met His Ser Asn Ala Ile
 195 200 205
 Ala Ala Met Thr Ser Ser Asn His Arg Ala Phe Ser Asp Pro Ala Val
 210 215 220
 Ser Gln Ser Leu Lys Asp Asp Ser Lys Pro Glu Pro Asp Lys Val Gly
 225 230 235 240
 Arg Phe Ala Ser Arg Pro Lys Ser Ile Lys Glu Lys Lys Lys Thr Thr
 245 250 255
 Ser His Thr Arg Gly Glu Ile Pro Glu Glu Ser Asn Tyr Val Ala Asp
 260 265 270
 Pro Gly Gly Ser Leu Ser Lys Thr Thr Asn Ile Ala Glu Glu Thr Ser
 275 280 285
 Lys Ile Glu Thr Tyr Ile Ala Lys Pro Ala Leu Pro Gly Thr Ser Thr
 290 295 300
 Asn Ser Asn Val Ala Pro Leu Cys Gln Ile Thr Val Lys Ile Gly Asn

```

305          310          315          320
Glu Ala Ile Val Lys Arg His Ile Leu Gly Ser Lys Leu Phe Tyr Lys
          325          330          335
Arg Gly Arg Arg Pro Lys Tyr Gln Met Gln Glu Glu Leu Leu Pro Gln
          340          345          350
Gly Asn Asp Pro Glu Pro Ser Gly Asp Ser Pro Leu Gly Leu Cys Gln
          355          360          365
Ser Glu Cys
          370

```

```

<210> 3663
<211> 481
<212> DNA
<213> Homo sapiens

```

```

<400> 3663
gatcctgata cggtgctgga atggctgcag atgggacagg gagatgaaag ggacatgcag
60
ctaatagccc tggagcagct atgcatgctg cttttgatgt ctgacaatgt ggatcgctgt
120
tttgaacat gtcctcctcg cactttctta ccagcccttt acaaaatttt tcttgatgaa
180
agtgtctccag acaatgtatt agaggtgaca gccctgtcca taacatacta cctggatgta
240
tctgctggaat gtacccgaag gattgttggg gtagatggag ctataaaagc actttgtaat
300
cgtttggtgg tagttgaact taacaacagg actagcagag acttagctga acagtgtgta
360
aaggtaagta ttacttattg gctcattact tatttttctc agacctctca gggatgagta
420
ttggctcatt taaacatcac ttagagactg aaaaatgtat ttactaaaaa aaaagtcgac
480
g
481

```

```

<210> 3664
<211> 138
<212> PRT
<213> Homo sapiens

```

```

<400> 3664
Asp Pro Asp Thr Leu Leu Glu Trp Leu Gln Met Gly Gln Gly Asp Glu
1          5          10          15
Arg Asp Met Gln Leu Ile Ala Leu Glu Gln Leu Cys Met Leu Leu Leu
20         25         30
Met Ser Asp Asn Val Asp Arg Cys Phe Glu Thr Cys Pro Pro Arg Thr
35         40         45
Phe Leu Pro Ala Leu Tyr Lys Ile Phe Leu Asp Glu Ser Ala Pro Asp
50         55         60
Asn Val Leu Glu Val Thr Ala Arg Ala Ile Thr Tyr Tyr Leu Asp Val
65         70         75         80
Ser Ala Glu Cys Thr Arg Arg Ile Val Gly Val Asp Gly Ala Ile Lys
85         90         95
Ala Leu Cys Asn Arg Leu Val Val Val Glu Leu Asn Asn Arg Thr Ser

```

100 105 110
 Arg Asp Leu Ala Glu Gln Cys Val Lys Val Ser Ile Thr Tyr Trp Leu
 115 120 125
 Ile Thr Tyr Phe Ser Gln Thr Ser Gln Gly
 130 135

<210> 3665
 <211> 6633
 <212> DNA
 <213> Homo sapiens

<400> 3665
 agggcgcgcc ctgacggact ggccgagccg gcggtgagag gccggcgcggt cgggagcggg
 60
 ccgcgcgcca ccatgtcggc caagggtgagg ctcaagaagc tggagcagct gctcctggac
 120
 gggccctggc gcaacgagag cgccctgagc gtggaacgc tgctcgacgt gctcgtctgc
 180
 ctgtacaccg agtgacgcca ctcgccctg cgccgcgaca agtacgtggc cagttcctc
 240
 gagggtgcta aaccatttac acagctggtg aaagaaatgc agcttcacgc agaagacttt
 300
 gaaataatta agtaattgg aagaggtgct tttggtgagg ttgctgttgt caaatgaag
 360
 aatactgaac gaatttatgc aatgaaaatc ctcaacaagt gggagatgct gaaaagagca
 420
 gagaccgagt gcttccgaga ggagcgcgat gtgctggtga acggcgactg ccagtggatc
 480
 accgcgctgc actacgcctt tcaggacgag aaccacgtgt acttagtcat ggattactat
 540
 gtgggtggtg atttactgac cctgctcagc aaatttgaag acaagcttcc ggaagatatg
 600
 gcgagggtct acattggtga aatggtgctg gccattgact ccacccatca gcttcattac
 660
 gtgcacagag acattaaacc tgacaatgct cttttggagc tgaatggtca tatccgcctg
 720
 gctgactttg gatcatgttt gaagatgaat gatgatggca ctgtgcagtc ctccgtggcc
 780
 gtgggcacac ctgactacat ctgcgcggag atcctgcagg cgaatggagg cgcatgggc
 840
 aaatacggcg ctgagtgatg ctggtggtct ctgggtgtct gcatgtatga gatgctctat
 900
 ggagaaacgc cgttttatgc ggagtcactc gtggagacct atgggaagat catgaaccat
 960
 gaagagcgat tccagttccc atcccatgct acggatgtat ctgaagaagc gaaggacctc
 1020
 atccagagac tgatctgcag tagagaacgc cggctggggc agaattggaat agaggatttc
 1080
 aaaaagcatg cgttttttga aggtctaaat tgggaaaata tacgaaacct agaagcacct
 1140
 tatattcctg atgtgagcag tccctctgac acatccaact tcgacgtgga tgacgacgtg
 1200
 ctgagaaaca cggaaatatt acctcctggt tctcacacag gcttttctgg attacatttg
 1260

ccattcattg gttttacatt cacaacggaa agctgttttt ctgatcgagg ctctctgaag
1320
agcataatgc agtccaacac attaaccaaa gatgaggatg tgcagcggga cctggagcac
1380
agcctgcaga tggaaagctta cgagaggagg attcggaggc tggaaacagga gaagctggag
1440
ctgagcagga agctgcaaga gtccaccag accgtgcagt cctccacgg ctcatctcgg
1500
gccctcagca attcaaacgg agataaagaa atcaaaaagc taaatgaaga aatcgaacgc
1560
ttgaagaata aaatagcaga ttcaaacagg ctggagcgac agcttgagga cacagtggcg
1620
cttcgccaag agcgtgagga ctccacgcag cggctgcggg ggctggagaa gcagcaccgc
1680
gtggtccggc aggaagaagga ggagctgcac aagcaactgg ttgaagctc agagcggttg
1740
aaatcccagg ccaaggaact caaagatgcc catcagcagc gaaagctggc cctgcaggag
1800
ttctcggagc tgaacgagcg catggcagag ctccgtgccc agaagcagaa ggtgtcccgg
1860
cagctgcgag acaaggagga ggagatggag gtggccacgc agaagtgga cgccatgcgg
1920
caggaaatgc ggagagctga gaagctcagg aaagagctgg aagctcagct tgatgatgct
1980
gttctgagg cctccaagga gcgcaagctt cgtgagcaca gcgagaactt ctgcaagcaa
2040
atggaaaagc agctggaggc cctcaagggt aagcaaggag gccggggagc ggggtgccacc
2100
ttagagcacc agcaagagat ttccaaaatc aaatccgagc tggagaagaa agtcttattt
2160
tatgaagagg aattggctcag acgtgaggcc tcccatgtgc tagaagtga aaatgtgaag
2220
aaggaggtgc atgattcaga aagccaccag ctggccctgc agaaagaaat cttgatgtta
2280
aaagataagt tagaaaagtc aaagcgagaa cggcataacg agatggagga ggcagtaggt
2340
acaataaaaag ataaatacga acgagaaaga gcgatgctgt ttgatgaaaa caagaagcta
2400
actgctgaaa atgaaaagct ctgttccttt gtggataaac tcacagctca aaatagacag
2460
ctggaggatg agctgcagga tctggcagcc aagaaggagt cagtggccca ctgggaagct
2520
cagattgcgg aaatcattca gtgggtcagt gacgagaaag atgcccgggg ttaccttcaa
2580
gctcttgctt ccaagatgac cgaagagtc gaggtttga ggagtctag tctggggta
2640
agaacactgg acccgctgtg gaaggtgcgc cgcagccaga agctggacat gtccgcgcgg
2700
ctggagctgc agtcggccct ggaggcggag atccgggcca agcagcttgt ccaggaggag
2760
ctcagggaag tcaaggacgc caacctcacc ttggaaagca aactaaagga ttccgaagcc
2820
aaaaacagag aattattaga agaaatgga attttgaaga aaaagatgga agaaaaattc
2880

agagcagata ctgggctcaa acttccagat tttcaggatt ccatttttga gtatttcaac
2940
actgctcctc ttgcacatga cctgacattt agagactctc tctcctcctc gtctgcatct
3000
tccttgctag ccttttggga agaaaccagc tcagctagtg agcaagaaac acaagctccg
3060
aagccagaag cgtcccccgc gatgtctgtg gctgcatcag agcagcagga ggacatggct
3120
cggccccccg agaggccatc cgctgtgccg ttgcccacca cgcaggccct ggctctggct
3180
ggaccgaagc caaaagctca ccagttcagc atcaagtcct tctccagccc tactcagtg
3240
agccactgca cctccctgat ggttgggctg atccggcagg gctacgcctg cgagggtgtg
3300
tcctttgtct gccacgtgtc ctgcaaagac ggtgcccccc aggtgtgccc aatacctccc
3360
gagcagtcca agaggcctct gggcgtggac gtgcagcgag gcacggaac agcctacaaa
3420
ggccatgtca aggtcccaaa gccacgggg gtgaagaagg gatggcagc cgcatatgca
3480
gtcgtctgtg actgcaagct cttcctgtat gatctgcctg aaggaaaatc caccacgcct
3540
ggtgtcattg cgagccaagt cttggatctc agagatgacg agttttccgt gagctcagtc
3600
ctggcctcag atgtcattca tgctacacgc cgagatatte catgtatatc caggggtgacg
3660
gcctctctct taggtgcacc ttctaagacc agctcgtctc tcattctgac agaaaatgag
3720
aatgaaaaga ggaagtgggt tgggattcta gaaggactcc agtccatcct tcataaaaac
3780
cggctgagga atcagggtcgt gcatgttccc ttggaagcct acgacagctc gctgcctctc
3840
atcaaggcca tcctgacagc tgccatcgtg gatgcagaca ggattgcagt cggcctagaa
3900
gaagggtctc atgtcataga ggtcacccga gatgtgatcg tccgtgccgc tgactgtaag
3960
aagggtacacc agatcgagct tgctcccagg gagaagatcg taatcctcct ctgtggccgg
4020
aaccaccatg tgacacctta tccgtggctg tcccttgatg gagcggaagg cagctttgac
4080
atcaagcttc cggaaaccaa aggctgccag ctcatggcca cggccacact caagaggaaac
4140
tctggcacct gcctgtttgt ggccgtgaaa cggctgatcc tttgctatga gatccagaga
4200
acgaagccat tccacagaaa gttcaatgag attgtggctc ccggcagcgt gcagtgcctg
4260
gcgggtgtca gggacaggct ctgtgtgggc tacccttctg ggttctgcct gctgagcatc
4320
cagggggacg ggcagcctct aaacctggta aatccaatg acccctcgtg tgcgttctc
4380
tcacaacagt cttttgatgc cctttgtgct gtggagctcg aaagcgagga gtacctgctt
4440
tgcttcagcc acatgggact gtacgtggac ccgcaaggcc ggagggcagc cgcgcaggag
4500

ctcatgtggc ctgcggtctc tgtcgctgt agttgcagcc ccacccacgt cacggtgtac
4560
agcgagtatg gcgtggacgt ctttgatgtg cgcaccatgg agtgggtgca gaccatcggc
4620
ctgcgaggga taaggcccct gaactctgaa ggcacccctca acctcctcaa ctgcgagcct
4680
ccacgcttga tctacttcaa gagcaagttc tcggggagcgg ttctcaacgt gccggacacc
4740
tccgacaaca gcaagaagca gatgctgcgc accaggagca aaaggcgggt cgtcttcaag
4800
gtcccagagg aagagagact gcagcagagg cgagagatgc ttagagaccc agaattgaga
4860
tccaaaatga tatccaaccc aaccaacttc aaccacgtgg cccacatggg cccaggcgac
4920
ggcatgcagg tgctcatgga cctgcctctg agtgctgtgc cccctcctca ggaggaaagg
4980
ccgggccccg ctcccaccaa cctgggtcgc cagcctccat ccaggaacaa gccctacatc
5040
tcgtggccct catcaggtgg atcgagcct agcgtgactg tgctctgag aagtatgtct
5100
gatccagacc aggactttga caaagagcct gattcggact ccaccaaaca ctcaactcca
5160
tcgaatagct ccaaccccag cggcccaccg agccccaact ccccccacag gagccagctc
5220
cccctgaag gcctggagca gccggcctgt gacacctgaa gccgccagct cgccacaggg
5280
gccagggagc tggagatggc ctccagcgtc agtgccaaga ctgagcgggc cctccagtgt
5340
tgtccaagga aatgtagaat cactttgtag atatggagat gaagaagaca aatctttatt
5400
ataaatattg tcagttttat gccgcattgt tcgtggcagt agaccacatc tgttcgtctg
5460
cacagctgtg aggcgatgct gtcccatctg cacatgaagg acccccatatc agcctgtctc
5520
ccaccctga caaccgaga gggcatatgg ggccctgcca acaccacttc ctccagagaa
5580
acccgtcatg acgcggtgc ttcggaagca gacatctggg gacacagcct cagtaccag
5640
tcttttccct agttcctgaa actttcctag gaccttaaga gaatagtagg aggtcctata
5700
gcattcccag tgtcactaga attttgaaga caggaaagtg gaggttagtc tgtggccttt
5760
ttttcattta gccattgcac agtcagctgc agaagtcctg ctgaccacct agtcatggac
5820
aaaggcccag gaccagtgc accctgcgtc cctgtgtgca ttaagttcat tctgggtcgc
5880
agccatgaag tgtcaccagt atctactact gtgaagtcag ctgtgctgtt ttccattcgc
5940
ttccactgct tctgcctcct gccataaaac cagcgagtgt cgtgggtgcag gcaggccctg
6000
tggcctgctg ggctgaggga agtcagagcc ccagggcgcc acgaagcagc cactgggata
6060
ccccaccccg ccccgccctg cccgcccccc ccccaccagt cctgcccccg catggagccc
6120

ccgtgattag tagcccgat gatcacgtag acccaccacaa cacactcctg cacactggcc
 6180
 ccggcccccac gcacagcaat cccctgcgcg tggatttcac ctcacccctt gtaccagatg
 6240
 ttgagtgacc agctctgtgg cctgtgtcgc tcagaggcct gtgattaact gtggcggcag
 6300
 acacagcttg tccacagctt gggccaggct tcccctgtcc tcccacgggt cggctgcttg
 6360
 gcaaggctgt tcaggacgtg cacttcccca agtcggcact gaggggccca gcaccaccta
 6420
 gccctgccac cccactgccc tccctggcct tctgctggat gggcacctgg ggggttcttg
 6480
 tttttacttt tttaatgtaa gtctcagtct ttgtaattaa ttattgaatt gtgagaacat
 6540
 ttttgaacaa tttacctgtc aataaagcag aagacggcag ttttaaagtt aaaaaaaaaa
 6600
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaa
 6633

<210> 3666

<211> 1728

<212> PRT

<213> Homo sapiens

<400> 3666

Met Ser Ala Lys Val Arg Leu Lys Lys Leu Glu Gln Leu Leu Asp
 1 5 10 15
 Gly Pro Trp Arg Asn Glu Ser Ala Leu Ser Val Glu Thr Leu Leu Asp
 20 25 30
 Val Leu Val Cys Leu Tyr Thr Glu Cys Ser His Ser Ala Leu Arg Arg
 35 40 45
 Asp Lys Tyr Val Ala Glu Phe Leu Glu Trp Ala Lys Pro Phe Thr Gln
 50 55 60
 Leu Val Lys Glu Met Gln Leu His Arg Glu Asp Phe Glu Ile Ile Lys
 65 70 75 80
 Val Ile Gly Arg Gly Ala Phe Gly Glu Val Ala Val Val Lys Met Lys
 85 90 95
 Asn Thr Glu Arg Ile Tyr Ala Met Lys Ile Leu Asn Lys Trp Glu Met
 100 105 110
 Leu Lys Arg Ala Glu Thr Ala Cys Phe Arg Glu Glu Arg Asp Val Leu
 115 120 125
 Val Asn Gly Asp Cys Gln Trp Ile Thr Ala Leu His Tyr Ala Phe Gln
 130 135 140
 Asp Glu Asn His Leu Tyr Leu Val Met Asp Tyr Tyr Val Gly Gly Asp
 145 150 155 160
 Leu Leu Thr Leu Leu Ser Lys Phe Glu Asp Lys Leu Pro Glu Asp Met
 165 170 175
 Ala Arg Phe Tyr Ile Gly Glu Met Val Leu Ala Ile Asp Ser Ile His
 180 185 190
 Gln Leu His Tyr Val His Arg Asp Ile Lys Pro Asp Asn Val Leu Leu
 195 200 205
 Asp Val Asn Gly His Ile Arg Leu Ala Asp Phe Gly Ser Cys Leu Lys
 210 215 220
 Met Asn Asp Asp Gly Thr Val Gln Ser Ser Val Ala Val Gly Thr Pro

```

225          230          235          240
Asp Tyr Ile Ser Pro Glu Ile Leu Gln Ala Met Glu Asp Gly Met Gly
245          250          255
Lys Tyr Gly Pro Glu Cys Asp Trp Trp Ser Leu Gly Val Cys Met Tyr
260          265          270
Glu Met Leu Tyr Gly Glu Thr Pro Phe Tyr Ala Glu Ser Leu Val Glu
275          280          285
Thr Tyr Gly Lys Ile Met Asn His Glu Glu Arg Phe Gln Phe Pro Ser
290          295          300
His Val Thr Asp Val Ser Glu Glu Ala Lys Asp Leu Ile Gln Arg Leu
305          310          315          320
Ile Cys Ser Arg Glu Arg Arg Leu Gly Gln Asn Gly Ile Glu Asp Phe
325          330          335
Lys Lys His Ala Phe Phe Glu Gly Leu Asn Trp Glu Asn Ile Arg Asn
340          345          350
Leu Glu Ala Pro Tyr Ile Pro Asp Val Ser Ser Pro Ser Asp Thr Ser
355          360          365
Asn Phe Asp Val Asp Asp Asp Val Leu Arg Asn Thr Glu Ile Leu Pro
370          375          380
Pro Gly Ser His Thr Gly Phe Ser Gly Leu His Leu Pro Phe Ile Gly
385          390          395          400
Phe Thr Phe Thr Thr Glu Ser Cys Phe Ser Asp Arg Gly Ser Leu Lys
405          410          415
Ser Ile Met Gln Ser Asn Thr Leu Thr Lys Asp Glu Asp Val Gln Arg
420          425          430
Asp Leu Glu His Ser Leu Gln Met Glu Ala Tyr Glu Arg Arg Ile Arg
435          440          445
Arg Leu Glu Gln Glu Lys Leu Glu Leu Ser Arg Lys Leu Gln Glu Ser
450          455          460
Thr Gln Thr Val Gln Ser Leu His Gly Ser Ser Arg Ala Leu Ser Asn
465          470          475          480
Ser Asn Arg Asp Lys Glu Ile Lys Lys Leu Asn Glu Glu Ile Glu Arg
485          490          495
Leu Lys Asn Lys Ile Ala Asp Ser Asn Arg Leu Glu Arg Gln Leu Glu
500          505          510
Asp Thr Val Ala Leu Arg Gln Glu Arg Glu Asp Ser Thr Gln Arg Leu
515          520          525
Arg Gly Leu Glu Lys Gln His Arg Val Val Arg Gln Glu Lys Glu Glu
530          535          540
Leu His Lys Gln Leu Val Glu Ala Ser Glu Arg Leu Lys Ser Gln Ala
545          550          555          560
Lys Glu Leu Lys Asp Ala His Gln Gln Arg Lys Leu Ala Leu Gln Glu
565          570          575
Phe Ser Glu Leu Asn Glu Arg Met Ala Glu Leu Arg Ala Gln Lys Gln
580          585          590
Lys Val Ser Arg Gln Leu Arg Asp Lys Glu Glu Glu Met Glu Val Ala
595          600          605
Thr Gln Lys Val Asp Ala Met Arg Gln Glu Met Arg Arg Ala Glu Lys
610          615          620
Leu Arg Lys Glu Leu Glu Ala Gln Leu Asp Asp Ala Val Ala Glu Ala
625          630          635          640
Ser Lys Glu Arg Lys Leu Arg Glu His Ser Glu Asn Phe Cys Lys Gln
645          650          655
Met Glu Ser Glu Leu Glu Ala Leu Lys Val Lys Gln Gly Gly Arg Gly

```



```

        660                665                670
Ala Gly Ala Thr Leu Glu His Gln Gln Glu Ile Ser Lys Ile Lys Ser
        675                680                685
Glu Leu Glu Lys Lys Val Leu Phe Tyr Glu Glu Glu Leu Val Arg Arg
        690                695                700
Glu Ala Ser His Val Leu Glu Val Lys Asn Val Lys Lys Glu Val His
705                710                715                720
Asp Ser Glu Ser His Gln Leu Ala Leu Gln Lys Glu Ile Leu Met Leu
        725                730                735
Lys Asp Lys Leu Glu Lys Ser Lys Arg Glu Arg His Asn Glu Met Glu
        740                745                750
Glu Ala Val Gly Thr Ile Lys Asp Lys Tyr Glu Arg Glu Arg Ala Met
        755                760                765
Leu Phe Asp Glu Asn Lys Lys Leu Thr Ala Glu Asn Glu Lys Leu Cys
770                775                780
Ser Phe Val Asp Lys Leu Thr Ala Gln Asn Arg Gln Leu Glu Asp Glu
785                790                795                800
Leu Gln Asp Leu Ala Ala Lys Lys Glu Ser Val Ala His Trp Glu Ala
        805                810                815
Gln Ile Ala Glu Ile Ile Gln Trp Val Ser Asp Glu Lys Asp Ala Arg
        820                825                830
Gly Tyr Leu Gln Ala Leu Ala Ser Lys Met Thr Glu Glu Leu Glu Ala
        835                840                845
Leu Arg Ser Ser Ser Leu Gly Ser Arg Thr Leu Asp Pro Leu Trp Lys
        850                855                860
Val Arg Arg Ser Gln Lys Leu Asp Met Ser Ala Arg Leu Glu Leu Gln
865                870                875                880
Ser Ala Leu Glu Ala Glu Ile Arg Ala Lys Gln Leu Val Gln Glu Glu
        885                890                895
Leu Arg Lys Val Lys Asp Ala Asn Leu Thr Leu Glu Ser Lys Leu Lys
        900                905                910
Asp Ser Glu Ala Lys Asn Arg Glu Leu Leu Glu Glu Met Glu Ile Leu
        915                920                925
Lys Lys Lys Met Glu Glu Lys Phe Arg Ala Asp Thr Gly Leu Lys Leu
930                935                940
Pro Asp Phe Gln Asp Ser Ile Phe Glu Tyr Phe Asn Thr Ala Pro Leu
945                950                955                960
Ala His Asp Leu Thr Phe Arg Asp Ser Leu Ser Ser Ser Ser Ala Ser
        965                970                975
Ser Leu Leu Ala Phe Trp Glu Glu Thr Ser Ser Ala Ser Glu Gln Glu
        980                985                990
Thr Gln Ala Pro Lys Pro Glu Ala Ser Pro Ser Met Ser Val Ala Ala
        995                1000                1005
Ser Glu Gln Gln Glu Asp Met Ala Arg Pro Pro Gln Arg Pro Ser Ala
1010                1015                1020
Val Pro Leu Pro Thr Thr Gln Ala Leu Ala Leu Ala Gly Pro Lys Pro
1025                1030                1035                1040
Lys Ala His Gln Phe Ser Ile Lys Ser Phe Ser Ser Pro Thr Gln Cys
        1045                1050                1055
Ser His Cys Thr Ser Leu Met Val Gly Leu Ile Arg Gln Gly Tyr Ala
        1060                1065                1070
Cys Glu Val Cys Ser Phe Ala Cys His Val Ser Cys Lys Asp Gly Ala
        1075                1080                1085
Pro Gln Val Cys Pro Ile Pro Pro Glu Gln Ser Lys Arg Pro Leu Gly

```

1090 1095 1100
Val Asp Val Gln Arg Gly Ile Gly Thr Ala Tyr Lys Gly His Val Lys
1105 1110 1115 1120
Val Pro Lys Pro Thr Gly Val Lys Lys Gly Trp Gln Arg Ala Tyr Ala
1125 1130 1135
Val Val Cys Asp Cys Lys Leu Phe Leu Tyr Asp Leu Pro Glu Gly Lys
1140 1145 1150
Ser Thr Gln Pro Gly Val Ile Ala Ser Gln Val Leu Asp Leu Arg Asp
1155 1160 1165
Asp Glu Phe Ser Val Ser Ser Val Leu Ala Ser Asp Val Ile His Ala
1170 1175 1180
Thr Arg Arg Asp Ile Pro Cys Ile Phe Arg Val Thr Ala Ser Leu Leu
1185 1190 1195 1200
Gly Ala Pro Ser Lys Thr Ser Ser Leu Leu Ile Leu Thr Glu Asn Glu
1205 1210 1215
Asn Glu Lys Arg Lys Trp Val Gly Ile Leu Glu Gly Leu Gln Ser Ile
1220 1225 1230
Leu His Lys Asn Arg Leu Arg Asn Gln Val Val His Val Pro Leu Glu
1235 1240 1245
Ala Tyr Asp Ser Ser Leu Pro Leu Ile Lys Ala Ile Leu Thr Ala Ala
1250 1255 1260
Ile Val Asp Ala Asp Arg Ile Ala Val Gly Leu Glu Gly Leu Tyr
1265 1270 1275 1280
Val Ile Glu Val Thr Arg Asp Val Ile Val Arg Ala Ala Asp Cys Lys
1285 1290 1295
Lys Val His Gln Ile Glu Leu Ala Pro Arg Glu Lys Ile Val Ile Leu
1300 1305 1310
Leu Cys Gly Arg Asn His His Val His Leu Tyr Pro Trp Ser Ser Leu
1315 1320 1325
Asp Gly Ala Glu Gly Ser Phe Asp Ile Lys Leu Pro Glu Thr Lys Gly
1330 1335 1340
Cys Gln Leu Met Ala Thr Ala Thr Leu Lys Arg Asn Ser Gly Thr Cys
1345 1350 1355 1360
Leu Phe Val Ala Val Lys Arg Leu Ile Leu Cys Tyr Glu Ile Gln Arg
1365 1370 1375
Thr Lys Pro Phe His Arg Lys Phe Asn Glu Ile Val Ala Pro Gly Ser
1380 1385 1390
Val Gln Cys Leu Ala Val Leu Arg Asp Arg Leu Cys Val Gly Tyr Pro
1395 1400 1405
Ser Gly Phe Cys Leu Leu Ser Ile Gln Gly Asp Gly Gln Pro Leu Asn
1410 1415 1420
Leu Val Asn Pro Asn Asp Pro Ser Leu Ala Phe Leu Ser Gln Gln Ser
1425 1430 1435 1440
Phe Asp Ala Leu Cys Ala Val Glu Leu Glu Ser Glu Glu Tyr Leu Leu
1445 1450 1455
Cys Phe Ser His Met Gly Leu Tyr Val Asp Pro Gln Gly Arg Arg Ala
1460 1465 1470
Arg Ala Gln Glu Leu Met Trp Pro Ala Ala Pro Val Ala Cys Ser Cys
1475 1480 1485
Ser Pro Thr His Val Thr Val Tyr Ser Glu Tyr Gly Val Asp Val Phe
1490 1495 1500
Asp Val Arg Thr Met Glu Trp Val Gln Thr Ile Gly Leu Arg Arg Ile
1505 1510 1515 1520
Arg Pro Leu Asn Ser Glu Gly Thr Leu Asn Leu Leu Asn Cys Glu Pro

							1525							1530							1535								
Pro	Arg	Leu	Ile	Tyr	Phe	Lys	Ser	Lys	Phe	Ser	Gly	Ala	Val	Leu	Asn														
								1540									1545							1550					
Val	Pro	Asp	Thr	Ser	Asp	Asn	Ser	Lys	Lys	Gln	Met	Leu	Arg	Thr	Arg														
																	1560							1565					
Ser	Lys	Arg	Arg	Phe	Val	Phe	Lys	Val	Pro	Glu	Glu	Glu	Arg	Leu	Gln														
								1570									1575							1580					
Gln	Arg	Arg	Glu	Met	Leu	Arg	Asp	Pro	Glu	Leu	Arg	Ser	Lys	Met	Ile														
								1585									1590							1595					1600
Ser	Asn	Pro	Thr	Asn	Phe	Asn	His	Val	Ala	His	Met	Gly	Pro	Gly	Asp														
																	1605							1610					1615
Gly	Met	Gln	Val	Leu	Met	Asp	Leu	Pro	Leu	Ser	Ala	Val	Pro	Pro	Ser														
																	1620							1625					1630
Gln	Glu	Glu	Arg	Pro	Gly	Pro	Ala	Pro	Thr	Asn	Leu	Ala	Arg	Gln	Pro														
																	1635							1640					1645
Pro	Ser	Arg	Asn	Lys	Pro	Tyr	Ile	Ser	Trp	Pro	Ser	Ser	Gly	Gly	Ser														
								1650									1655							1660					
Glu	Pro	Ser	Val	Thr	Val	Pro	Leu	Arg	Ser	Met	Ser	Asp	Pro	Asp	Gln														
																	1665							1670					1680
Asp	Phe	Asp	Lys	Glu	Pro	Asp	Ser	Asp	Ser	Thr	Lys	His	Ser	Thr	Pro														
																	1685							1690					1695
Ser	Asn	Ser	Ser	Asn	Pro	Ser	Gly	Pro	Pro	Ser	Pro	Asn	Ser	Pro	His														
																	1700							1705					1710
Arg	Ser	Gln	Leu	Pro	Leu	Glu	Gly	Leu	Glu	Gln	Pro	Ala	Cys	Asp	Thr														
																	1715							1720					1725

```
<210> 3667
<211> 505
<212> DNA
<213> Homo sapiens
```

```

<400> 3667
tgtacattaa tctaataacc tggatttaca ttgatatttt aatattttga aatttcattg
60
taattcccta tgttaacaag ttttaataagt catctgtaac agtacaatta agtccatata
120
tgattgtatt tactctttct tccctactca tagtatgcgt tccattttga ggaatcacag
180
atctgaaga gatgccagaa cactagaaga tgaagaagag atgtggttta acacagatga
240
agatgacatg gaagatggag aagctgtagt gtctccatct gacaaaacta aaatgatga
300
tgatattatg gatccaataa gtaaatattc ggaagggaag aaattaagaag aaagtggagga
360
aaagggaagt cttctgaaaa caaaccttct tggacggcag agceccaagt tcaagcttct
420
cctgtccagt ggaacgaaga ctaacctcac cagccagtca tctacaacaa atctgcctgg
480
ttctccggga tcacctggat cccca
505

```

```
<210> 3668
<211> 117
<212> PRT
```

<213> Homo sapiens

<400> 3668

```

Met Arg Ser Ile Leu Arg Asn His Arg Tyr Arg Arg Asp Ala Arg Thr
 1           5           10           15
Leu Glu Asp Glu Glu Glu Met Trp Phe Asn Thr Asp Glu Asp Met
      20           25           30
Glu Asp Gly Glu Ala Val Val Ser Pro Ser Asp Lys Thr Lys Asn Asp
      35           40           45
Asp Asp Ile Met Asp Pro Ile Ser Lys Phe Met Glu Arg Lys Lys Leu
      50           55           60
Lys Glu Ser Glu Glu Lys Glu Val Leu Leu Lys Thr Asn Leu Ser Gly
      65           70           75           80
Arg Gln Ser Pro Ser Phe Lys Leu Ser Leu Ser Ser Gly Thr Lys Thr
      85           90           95
Asn Leu Thr Ser Gln Ser Ser Thr Thr Asn Leu Pro Gly Ser Pro Gly
      100          105          110
Ser Pro Gly Ser Pro
      115

```

<210> 3669

<211> 1226

<212> DNA

<213> Homo sapiens

<400> 3669

```

cttgactccc agcattctca tctcaccttg ccatactata agatgtctgg tttgtctatg
60
gctgagggttc tggcccgac ggactggaca gtagaggatg gattacagaa atacgagaga
120
ggattaatct tttacattaa tcattcactt tatgaaaacc tggatgaaga attaaatgaa
180
gaattagcag caaaagtggg tcagatgttt tatgtggctg agccaaagca agtgcccat
240
attctctgta gtccttctat gaagaatatt aatcctttaa ctgccatgag ctatctaagg
300
aagatggata cttctgggtt ttcattccatc ttagtgacac tgagcaaggc agcagtggca
360
ctgaaaaatg gagatcttga cgtgtacaga aatgaaatga aaagccatcc agagatgaag
420
ttggtgtgtg gcttcatttt ggaaccacgc ctgttgattc aacacaggaa gggacagatt
480
gttccaactg agcttgcgac tcacttgaag gagactcagc caggattgct tgtggcttca
540
gtcctgggat tgcagaagaa cagcaaaatt gggattgaag aagcagattc tttctttaag
600
gtgctttgtg gtaaggatga agataccatc cctcagctct tgatagactt ttgggaagct
660
cagctagtgg catgtctccc agatgtggta cttcaggaac tctttttcaa actcacatca
720
cagtacatct ggagattgtc taagaggcag cctcctgaca ccacaccatt gcgaacatcg
780
gaggatctga taaatgcctg tagtcattat ggcttaattt atccatgggt tcacgtcgta
840

```

atatcatctg attcttttagc tgataaaaaat tatacagaag atcttttcaaa attacagtct
 900
 cttatatgtg gtccttcatt tgacatagct tccattattc cgttcttgga gccactttca
 960
 gaagacacta ttgccggcct cagtgtccat gttctgtgtc gtacacgctt gaaagagtat
 1020
 gaacagtgc tagacatact gttagagaga tgcccggagg cagtcattcc atatgctaata
 1080
 catgaactga aagaagagaa ccggactctg tgggtgaaaa aactgttgcc tgaactttgt
 1140
 cagagaataa aatgtggtgg agagaagtat caactctacc tgtcatcatt aaaagcttaa
 1200
 ttttcacggg aactgtggaa gctagc
 1226

<210> 3670
 <211> 385
 <212> PRT
 <213> Homo sapiens

<400> 3670
 Met Ser Gly Leu Ser Met Ala Glu Val Leu Ala Arg Thr Asp Trp Thr
 1 5 10 15
 Val Glu Asp Gly Leu Gln Lys Tyr Glu Arg Gly Leu Ile Phe Tyr Ile
 20 25 30
 Asn His Ser Leu Tyr Glu Asn Leu Asp Glu Glu Leu Asn Glu Glu Leu
 35 40 45
 Ala Ala Lys Val Val Gln Met Phe Tyr Val Ala Glu Pro Lys Gln Val
 50 55 60
 Pro His Ile Leu Cys Ser Pro Ser Met Lys Asn Ile Asn Pro Leu Thr
 65 70 75 80
 Ala Met Ser Tyr Leu Arg Lys Met Asp Thr Ser Gly Phe Ser Ser Ile
 85 90 95
 Leu Val Thr Leu Ser Lys Ala Ala Val Ala Leu Lys Met Gly Asp Leu
 100 105 110
 Asp Val Tyr Arg Asn Glu Met Lys Ser His Pro Glu Met Lys Leu Val
 115 120 125
 Cys Gly Phe Ile Leu Glu Pro Arg Leu Leu Ile Gln His Arg Lys Gly
 130 135 140
 Gln Ile Val Pro Thr Glu Leu Ala Thr His Leu Lys Glu Thr Gln Pro
 145 150 155 160
 Gly Leu Leu Val Ala Ser Val Leu Gly Leu Gln Lys Asn Ser Lys Ile
 165 170 175
 Gly Ile Glu Glu Ala Asp Ser Phe Phe Lys Val Leu Cys Gly Lys Asp
 180 185 190
 Glu Asp Thr Ile Pro Gln Leu Leu Ile Asp Phe Trp Glu Ala Gln Leu
 195 200 205
 Val Ala Cys Leu Pro Asp Val Val Leu Gln Glu Leu Phe Phe Lys Leu
 210 215 220
 Thr Ser Gln Tyr Ile Trp Arg Leu Ser Lys Arg Gln Pro Pro Asp Thr
 225 230 235 240
 Thr Pro Leu Arg Thr Ser Glu Asp Leu Ile Asn Ala Cys Ser His Tyr
 245 250 255
 Gly Leu Ile Tyr Pro Trp Val His Val Val Ile Ser Ser Asp Ser Leu

260 265 270
 Ala Asp Lys Asn Tyr Thr Glu Asp Leu Ser Lys Leu Gln Ser Leu Ile
 275 280 285
 Cys Gly Pro Ser Phe Asp Ile Ala Ser Ile Ile Pro Phe Leu Glu Pro
 290 295 300
 Leu Ser Glu Asp Thr Ile Ala Gly Leu Ser Val His Val Leu Cys Arg
 305 310 315 320
 Thr Arg Leu Lys Glu Tyr Glu Gln Cys Ile Asp Ile Leu Leu Glu Arg
 325 330 335
 Cys Pro Glu Ala Val Ile Pro Tyr Ala Asn His Glu Leu Lys Glu Glu
 340 345 350
 Asn Arg Thr Leu Trp Trp Lys Lys Leu Leu Pro Glu Leu Cys Gln Arg
 355 360 365
 Ile Lys Cys Gly Gly Glu Lys Tyr Gln Leu Tyr Leu Ser Ser Leu Lys
 370 375 380
 Ala
 385

<210> 3671

<211> 828

<212> DNA

<213> Homo sapiens

<400> 3671

nntacagcta agattcattt catacgtttg atgcttagct gaaaaattac aataaattct
 60
 ccaatgaaat tatgtatctt tatttaatga aaatgcctgc tgcgtaccaa ggtatgtact
 120
 agggcatctg gggtaagtaa aaacaacac atagagcctg cctggagaag ctcatggctt
 180
 gatggaaaaga taagcaagaa gagttaattt ctaatcaata tgataaaaag gtcagagagc
 240
 agtttctgaa aaacatgttt ttgagttgag tcctgaaaga caaggagatg ttagtaaaagc
 300
 agagaagggg gaattcattc tagaaagatc agacaatgtg tgggaagggc agagtctgaa
 360
 aagagcatgc ccattttgga gaagcatcaa gaagcccacg cgtagaagc accggcccca
 420
 tgagacaaag acacagctag agagattgac taggcatgt cggaatgtcc tcttatttta
 480
 tacatacata agcatataga tacatatagc caaagttacc tttttaatga tcttttttac
 540
 ccagtgtatt ctggagggtc aatgggtcaca tatgaacatc tccgagaggt tgtgtttggc
 600
 aaaagtgaag atgagcatta tcccctttgg aaatcagtca ttggagggat gatggctggt
 660
 gttattggcc agtttttagc caatccaact gacctagtga aggttcagat gcaaatggaa
 720
 ggaaaaagga aactggaagg aaaaccattg cgatttcgtg gtgtacatca tgcatttgca
 780
 aaaatcttag ctgaaggagg aatacgaggg ctttgggcag gctgggta
 828

<210> 3672

<211> 124
 <212> PRT
 <213> Homo sapiens

<400> 3672
 Met Ser Glu Cys Pro Leu Ile Leu Tyr Ile His Lys His Ile Asp Thr
 1 5 10 15
 Tyr Ser Gln Ser Tyr Leu Phe Asn Asp Leu Phe Tyr Pro Val Tyr Ser
 20 25 30
 Gly Gly Arg Met Val Thr Tyr Glu His Leu Arg Glu Val Val Phe Gly
 35 40 45
 Lys Ser Glu Asp Glu His Tyr Pro Leu Trp Lys Ser Val Ile Gly Gly
 50 55 60
 Met Met Ala Gly Val Ile Gly Gln Phe Leu Ala Asn Pro Thr Asp Leu
 65 70 75 80
 Val Lys Val Gln Met Gln Met Glu Gly Lys Arg Lys Leu Glu Gly Lys
 85 90 95
 Pro Leu Arg Phe Arg Gly Val His His Ala Phe Ala Lys Ile Leu Ala
 100 105 110
 Glu Gly Gly Ile Arg Gly Leu Trp Ala Gly Trp Val
 115 120

<210> 3673
 <211> 1052
 <212> DNA
 <213> Homo sapiens

<400> 3673
 nagatctcaa aatctggact tgaagaagaat tccttgatct atgaactttt ctctgttatg
 60
 gttcattctg ggagcgtgc tgggtggtcat tattatgcat gtataaagtc attcagtgat
 120
 gagcagtggt acagcttcaa tgatcaacat gtcagcagga taacacaaga ggacattaag
 180
 aaaacacatg gtggatcttc aggaagcaga ggatattatt ctagtgtctt cgcaagttcc
 240
 acaaatgcat atatgctgat ctatagactg aaggatccag ccagaaatgc aaaatttcta
 300
 gaagtggatg aatacccaga acatattaaa aacttggtgc agaaagagag agagttggaa
 360
 gaacaagaaa agagacaacg agaaattgag cgcaatacat gcaagataaa attattctgt
 420
 ttgcatccta caaaacaagt aatgatggaa aataaattgg aggttcataa ggataagaca
 480
 ttaaaggaag cagtagaaat ggcttataag atgatggatt tagaagaggt aatacccctg
 540
 gattgtgtgc gccttgttaa atatgatgag ttctatgatt atctagaacg gtcatatgaa
 600
 ggagaagaag atacaccaat ggggcttcta ctagggtggcg tcaagtcaac atatatgttt
 660
 gatctgtgtg tggagacgag aaagcctgat cagggtttcc aatcttataa acctggaggg
 720
 gagccatttt acaccatttt tagttggtct gtacttagaa ttttcttgag aaagggtttt
 780

tttttattgt agcaatgaac ataatttaca ttttgatat ggtcttaca ttagaataa
 840
 ttttgacagg ttgagaagta ctcagcacca gcttgggaatt aagttctaga ttacttgcaa
 900
 agagttgtgt acataatattt aaaaacaaca aaaaacaaca aagcttctag cttacggtct
 960
 tcagtgggtt tttctctctc cagtggggcg tactgaatca ttctggatgc tgtcaatccc
 1020
 taaagttatc aattgctctc ttaggaagat ct
 1052

<210> 3674
 <211> 263
 <212> PRT
 <213> Homo sapiens

<400> 3674
 Xaa Ile Ser Lys Ser Gly Leu Glu Lys Asn Ser Leu Ile Tyr Glu Leu
 1 5 10 15
 Phe Ser Val Met Val His Ser Gly Ser Ala Ala Gly Gly His Tyr Tyr
 20 25 30
 Ala Cys Ile Lys Ser Phe Ser Asp Glu Gln Trp Tyr Ser Phe Asn Asp
 35 40 45
 Gln His Val Ser Arg Ile Thr Gln Glu Asp Ile Lys Lys Thr His Gly
 50 55 60
 Gly Ser Ser Gly Ser Arg Gly Tyr Tyr Ser Ser Ala Phe Ala Ser Ser
 65 70 75 80
 Thr Asn Ala Tyr Met Leu Ile Tyr Arg Leu Lys Asp Pro Ala Arg Asn
 85 90 95
 Ala Lys Phe Leu Glu Val Asp Glu Tyr Pro Glu His Ile Lys Asn Leu
 100 105 110
 Val Gln Lys Glu Arg Glu Leu Glu Glu Gln Glu Lys Arg Gln Arg Glu
 115 120 125
 Ile Glu Arg Asn Thr Cys Lys Ile Lys Leu Phe Cys Leu His Pro Thr
 130 135 140
 Lys Gln Val Met Met Glu Asn Lys Leu Glu Val His Lys Asp Lys Thr
 145 150 155 160
 Leu Lys Glu Ala Val Glu Met Ala Tyr Lys Met Met Asp Leu Glu Glu
 165 170 175
 Val Ile Pro Leu Asp Cys Cys Arg Leu Val Lys Tyr Asp Glu Phe His
 180 185 190
 Asp Tyr Leu Glu Arg Ser Tyr Glu Gly Glu Glu Asp Thr Pro Met Gly
 195 200 205
 Leu Leu Leu Gly Gly Val Lys Ser Thr Tyr Met Phe Asp Leu Leu Leu
 210 215 220
 Glu Thr Arg Lys Pro Asp Gln Val Phe Gln Ser Tyr Lys Pro Gly Gly
 225 230 235 240
 Glu Pro Phe Tyr Thr Ile Phe Ser Trp Ser Val Leu Arg Ile Phe Leu
 245 250 255
 Arg Lys Val Phe Phe Leu Leu
 260

<210> 3675
 <211> 837

<212> DNA

<213> Homo sapiens

<400> 3675

```

nntccggaga tgtgaagaag gggggcgagc ggacaggaag atgaaggag caaagctgcc
60
cgccgcggga caggcgtcta ggtgaacaag aaaatgaccg aagaaacaca cccagacgat
120
gacagctata ttgtgcgtgt caaggctgtg gttatgacca gagatgactc cagcggggga
180
tggttccac aggaaggagg cgggatcagt cgcgtcgggg tctgtaaggt catgcacccc
240
gaaggcaatg gacgaagcgg ctttctcatc catggtgaac gacagaaaga caaactggtg
300
gtattggaat gctatgtaag aaaggacttg gtctacacca aagccaatcc aacgtttcat
360
cactggaagg tcgataatag gaagtttga cttactttcc aaagccctgc tgatgcccca
420
gcctttgaca ggggagtaag gaaagcaatc gaagacctta tagaagaagt agaaaatgat
480
tctggcgggc ccagaaggct cctggcctac ccactgtcct cctgtaatca gaggccagg
540
gtgtacagct gccactgaaa aggaaggga tctgtgacct ctggagccct ggttcgggtt
600
aggccttggt ctatgggtaa gtgagtagta ggcatttgtt tacatctgat cgtggcctgg
660
aggggcccttg ggcagtcagt tctcatgggt ggcttgacta gagtcacag atgcaaacac
720
aaaaattctc cactgcagca catccaggta tcaaatcaga gsgttaaga agccatagac
780
agggccctgt gaagaagaa atatcaagca aggcattgta ataccaaat cagatct
837

```

<210> 3676

<211> 154

<212> PRT

<213> Homo sapiens

<400> 3676

```

Met Thr Glu Glu Thr His Pro Asp Asp Asp Ser Tyr Ile Val Arg Val
1      5      10      15
Lys Ala Val Val Met Thr Arg Asp Asp Ser Ser Gly Gly Trp Phe Pro
20     25     30
Gln Glu Gly Gly Gly Ile Ser Arg Val Gly Val Cys Lys Val Met His
35     40     45
Pro Glu Gly Asn Gly Arg Ser Gly Phe Leu Ile His Gly Glu Arg Gln
50     55     60
Lys Asp Lys Leu Val Val Leu Glu Cys Tyr Val Arg Lys Asp Leu Val
65     70     75     80
Tyr Thr Lys Ala Asn Pro Thr Phe His His Trp Lys Val Asp Asn Arg
85     90     95
Lys Phe Gly Leu Thr Phe Gln Ser Pro Ala Asp Ala Arg Ala Phe Asp
100    105    110
Arg Gly Val Arg Lys Ala Ile Glu Asp Leu Ile Glu Glu Val Glu Asn

```

115 120 125
 Asp Ser Gly Gly Pro Arg Arg Leu Leu Ala Tyr Pro Leu Ser Ser Cys
 130 135 140
 Asn Gln Arg Pro Arg Val Tyr Ser Cys His
 145 150

<210> 3677
 <211> 418
 <212> DNA
 <213> Homo sapiens

<400> 3677
 nnggaagaag gcccttctca aaatggactg gtgttgagg gtgagaagct gccccctgac
 60
 ttcatgccaa agctcgtcaa gaatctccta ggcgagatgc ctctgtgggt ctgccagagt
 120
 tgccgaaga gcatggagga agatgaaagg cagacaggtc gagaacatgc agtggcgatc
 180
 tccttgtcac acacatcctg caaatcacag tcttgtggag atgactctca ttcgtcctcg
 240
 tcttctctct catcatcttc atcctcgtcc tctcttctct gccctgggaa ctcgaggagac
 300
 tgggataccta gctcgttctct gtcggcacat aagctctcgg gcctctggaa ttccccacat
 360
 tccagtgggg ccatgccagg cagctctctt gggagtcctc ctaccatccc tggcgcg
 418

<210> 3678
 <211> 139
 <212> PRT
 <213> Homo sapiens

<400> 3678
 Xaa Glu Glu Gly Pro Ser Gln Asn Gly Leu Val Leu Gln Gly Glu Lys
 1 5 10 15
 Leu Pro Pro Asp Phe Met Pro Lys Leu Val Lys Asn Leu Leu Gly Glu
 20 25 30
 Met Pro Leu Trp Val Cys Gln Ser Cys Arg Lys Ser Met Glu Glu Asp
 35 40 45
 Glu Arg Gln Thr Gly Arg Glu His Ala Val Ala Ile Ser Leu Ser His
 50 55 60
 Thr Ser Cys Lys Ser Gln Ser Cys Gly Asp Asp Ser His Ser Ser Ser
 65 70 75 80
 Ser Ser Ser Ser Ser Ser Ser Ser Ser Ser Ser Ser Ser Cys Pro Gly
 85 90 95
 Asn Ser Gly Asp Trp Asp Pro Ser Ser Phe Leu Ser Ala His Lys Leu
 100 105 110
 Ser Gly Leu Trp Asn Ser Pro His Ser Ser Gly Ala Met Pro Gly Ser
 115 120 125
 Ser Leu Gly Ser Pro Pro Thr Ile Pro Gly Ala
 130 135

<210> 3679
 <211> 567

<212> DNA

<213> Homo sapiens

<400> 3679

cgcgtgaagg gctatgacct ggagttaagt atggcgctgg ggacatacta cccacctccc
 60
 cgccctcaggc agctgctccc catgcttctt caggaacaa gtatcttcac tgcccctaag
 120
 gagatcgagc agatcaaggc ccagctggag acagccctga agtggaggaa ctatgagggtg
 180
 aagctgcggc tgctgctgca cctggaggaa ctgcagatgg agcatgatat ccggcactat
 240
 gacctggagt cgggtcccat gacctgggac cctgtggacc agaaccacag gctgctcacg
 300
 ctggagggtc ctggagtgc tgagagccgc ccctcagtgc tacggggcga ccacctgttt
 360
 gcccttttgt cctcgagac acaccaggag gaccccatca catataaggg ctttgtgcac
 420
 aaggtggaat tggaccgtgt caagctgagc ttttccatga gcctcctgag ccgctttgtg
 480
 gatgggctga ccttcaaggt gaactttacc ttcaaccgcc agccgctgag agtccagcac
 540
 cgtgcctggg agttgacagg gcgctgg
 567

<210> 3680

<211> 189

<212> PRT

<213> Homo sapiens

<400> 3680

Arg Val Lys Gly Tyr Asp Leu Glu Leu Ser Met Ala Leu Gly Thr Tyr
 1 5 10 15
 Tyr Pro Pro Pro Arg Leu Arg Gln Leu Leu Pro Met Leu Leu Gln Gly
 20 25 30
 Thr Ser Ile Phe Thr Ala Pro Lys Glu Ile Ala Glu Ile Lys Ala Gln
 35 40 45
 Leu Glu Thr Ala Leu Lys Trp Arg Asn Tyr Glu Val Lys Leu Arg Leu
 50 55 60
 Leu Leu His Leu Glu Glu Leu Gln Met Glu His Asp Ile Arg His Tyr
 65 70 75 80
 Asp Leu Glu Ser Val Pro Met Thr Trp Asp Pro Val Asp Gln Asn Pro
 85 90 95
 Arg Leu Leu Thr Leu Glu Val Pro Gly Val Thr Glu Ser Arg Pro Ser
 100 105 110
 Val Leu Arg Gly Asp His Leu Phe Ala Leu Leu Ser Ser Glu Thr His
 115 120 125
 Gln Glu Asp Pro Ile Thr Tyr Lys Gly Phe Val His Lys Val Glu Leu
 130 135 140
 Asp Arg Val Lys Leu Ser Phe Ser Met Ser Leu Leu Ser Arg Phe Val
 145 150 155 160
 Asp Gly Leu Thr Phe Lys Val Asn Phe Thr Phe Asn Arg Gln Pro Leu
 165 170 175
 Arg Val Gln His Arg Ala Trp Glu Leu Thr Gly Arg Trp

180

185

<210> 3681
 <211> 788
 <212> DNA
 <213> Homo sapiens

<400> 3681
 nntgggcagt gtactcgggc ctccccgaca gcagctcctg tggggagcgc tcaccaccac
 60
 ccccgccctcc acttccttcg gatgaggccc tgctgcactg tgtcctggaa ggaaagctcc
 120
 gagaccggga ggcagagctt cagcagctgc gggacagcct ggggctgagc atggagcagc
 180
 gcggcggagg tcgctcgca ggcgctggc caggcctgag cctctgccac catggccatt
 240
 gtgcagactc tgccagtgc actggagcct gctcctgaag ctgccactgc cccacaagct
 300
 ccagtcatgg gtagtgtgag cagccttata tcaggccggc cctgtcccg ggggccagct
 360
 cctccccgc accacggccc tctggggccc accttcttcc gccagcagga tggcctgcta
 420
 cgggggtggct atgaggcaca ggagccgctg tgcccagctg tgcccctag gaaggctgtc
 480
 cctgttacca gcttcaccta catcaatgag gacttccgga cagagtcacc cccagccca
 540
 agcagtgatg ttgaggatgc ccgagagcag cgggcacaca atgcccacct ccgcgccca
 600
 ccaccaaaag tcatcctgt ctctggaag ctggagaaga acatagagaa gatcctgac
 660
 cgcccaacag cctcaagcc agtgctgccc aaacctcgag gggctccgtc cctgcctagc
 720
 ttcattgggtc ctctgggccac cgggctgtct gggagccagg gcagcctgac gcagctgttt
 780
 ggggggccc
 788

<210> 3682
 <211> 185
 <212> PRT
 <213> Homo sapiens

<400> 3682
 Met Ala Ile Val Gln Thr Leu Pro Val Pro Leu Glu Pro Ala Pro Glu
 1 5 10 15
 Ala Ala Thr Ala Pro Gln Ala Pro Val Met Gly Ser Val Ser Ser Leu
 20 25 30
 Ile Ser Gly Arg Pro Cys Pro Gly Gly Pro Ala Pro Pro Arg His His
 35 40 45
 Gly Pro Pro Gly Pro Thr Phe Phe Arg Gln Gln Asp Gly Leu Leu Arg
 50 55 60
 Gly Gly Tyr Glu Ala Gln Glu Pro Leu Cys Pro Ala Val Pro Pro Arg
 65 70 75 80
 Lys Ala Val Pro Val Thr Ser Phe Thr Tyr Ile Asn Glu Asp Phe Arg

2832

	85		90		95										
Thr	Glu	Ser	Pro	Pro	Ser	Pro	Ser	Ser	Asp	Val	Glu	Asp	Ala	Arg	Glu
	100							105					110		
Gln	Arg	Ala	His	Asn	Ala	His	Leu	Arg	Gly	Pro	Pro	Pro	Lys	Leu	Ile
	115						120					125			
Pro	Val	Ser	Gly	Lys	Leu	Glu	Lys	Asn	Ile	Glu	Lys	Ile	Leu	Ile	Arg
	130					135					140				
Pro	Thr	Ala	Phe	Lys	Pro	Val	Leu	Pro	Lys	Pro	Arg	Gly	Ala	Pro	Ser
145				150						155				160	
Leu	Pro	Ser	Phe	Met	Gly	Pro	Arg	Ala	Thr	Gly	Leu	Ser	Gly	Ser	Gln
		165							170				175		
Gly	Ser	Leu	Thr	Gln	Leu	Phe	Gly	Gly							
	180						185								

<210> 3683

<211> 4421

<212> DNA

<213> Homo sapiens

<400> 3683

gcggccgctc gcgcgcagcc ccgcacctcc gccctgcct ctgcctcctg ggccatgccc
 60
 tgctgtttac atgccggtga ggtccccggc cgctccgaac ccctccgagc cccggctccc
 120
 cgagggtgaa gccccccggc ccgcgaactg gactgggtga tctctcagac ctggggcccc
 180
 ggactccgat ctccgcgcgc tccgccacca tcaggggcggg atccggctct ggtgttttga
 240
 ggaggggggtg tgggtgtagg aaaggaatcc cgtccctctc cacccttttt cgccttcggg
 300
 gcttcagact cagggaactc gctcatggct ttcttgatga agaagaagaa attcaaatc
 360
 caaactactt tcacctgga ggagctgact gcggttcctt tcgtgaacgg ggtcctcttc
 420
 tgcaagggtc ggctgctgga tggaggggat ttgttcagct tgcgtcaag ggaggaggta
 480
 caggagaact gtgtgcggtg gcgaaagagg ttcaccttcg tgtgtaagat gagtgttaac
 540
 ccggccaccg gcctgctgga cccctgtgtc ttccgtgtgt ctgtgcgcaa ggagctgaaa
 600
 ggccgggaag cttattccaa gctgggcttc gctgacttga acctggccga gtttgcgggc
 660
 tcgggctcca cgggtgcgctg ctgcctgctc gagggatatg acaagaagaa cactcgccag
 720
 gacaactcca tccttaaggt caccattggt atgttctctc tctctggaga tccctgcttc
 780
 aagacgccac catcgactgc caagtccatc tccatcccag gccaggattc ctccctgcag
 840
 ctgacgtgta aggggtggtg gaccagcagt gggggcagca gcaccaactc cctgactggg
 900
 tcccggcccc ccaaggctcg gcccaactatt ctgagctcag ggctgccaga ggaacccgac
 960
 cagaacctgt ccagccctga ggaggtgttc cactctggcc actcccga ctccagctat
 1020

gccagccagc agtccaagat ctccggctac agcacagagc actcgcactc ctccagcctc
1080
tcagacctga cgcaccgccg caacacgtcc accagcagca gcgcctctgg gggccttggc
1140
atgaccgtgg agggccctga gggcagttag cgggagcacc gggccccgga gaagccgccg
1200
cggccacccc gggccctgca tctgtccgat cgctctttca ggcggaagaa ggactcggtg
1260
gagagccacc cgacctgggt ggacgacacg cggatcgatg cggatgccat cgtggagaag
1320
atcgtgcaga gccaggactt cacagatggc agcaacaccg aggacagcaa cctccggctg
1380
ttcgtgagcc gcgatggctc tgccacgctg agcggcatcc agcttgccac cagggtctct
1440
tctggggtct acgagccagt tgtattgaa agccattgag gagcaggtgt ccgggctgga
1500
gaagagtcct gctttctctg gagtccagac ctgtatcatt ccattaggaa ctttccctt
1560
cagatcacct ctgcgccaca tctcatccat gcctcctcca tgcactccag tccacactcc
1620
ccgtagcatc attccattgc ccctcccatc catgctggga ccctcctggc ccaccaaggc
1680
ccaggcacca ctgtgaatat tctcctctga accactagag ggcaggccag gcaggccagg
1740
cgggcccgtg cagcttgttg gcaagaagga gctggcaagg accggcgctg ctggagactg
1800
acccagccct ctggctgagg acatgcagca gctcctaata gtagagatgc ctgtggctga
1860
gggggacctc ctacctgtgt cccactcac tccaggagca ctggcttttg tcacgtctta
1920
gcagcagggc ctgtctccgt tgttcccttg ccctggtggt gggggggcca gaccgcctcc
1980
ggaatcctgc cacctgtgac tgtctgactg cttagtgtct cagctgtccc ttccttgtgt
2040
cctgggggac ctgctggcgg cctcttctct ggagccatga cctcagaccc caccacact
2100
ccagatcgag acccctgctt ccccccgca aatgtctctc cgctgccttg cagcctgcac
2160
tttgacatg ctcaccccca gcacagtccc actggccctc caccctccct tccctgagct
2220
ccttcccaag gactcctggt cactgcctgc tgtgcagtca gaggccagg gtccagcagc
2280
ccggcgggaa cgggtgctgc ctcttctctc agttagctcc agctcaggtc tgagaccgt
2340
gctgagaaaag gctgagcac cgaccgtgcc ctctgcccag ggctgggtcc tgagcagctg
2400
gttttctctg aggaagggtg gagcaagcaa agtccttctc tgccctcagg gtcagctgcc
2460
cagactgggg cggatgccag agaggcaggt gggctgtggc tggactggtc cggagctggc
2520
ttccttacca gaaaagctc agccttctc tggaagcatc cccggttctg ggcaaggggg
2580
aagggtcctt ttaagggtg tgctttccca gtggggagca gtctggccct gccccctact
2640

aaagcctctg ctctcagcac tttccccc aa gtccttgtaa cttgcttgaa ggtgggttct
2700
ggctgccagc cagtcctctg acaactctc ctgccccctt taaatttcac tcattttgta
2760
taaaccagc aggtctgtgt ttacttagcc ctgtagcttt tttcattttt tctttccgtc
2820
tttcttcttg agttcacggt tcaatattgc ctccctgccc tggtagggg aggtgctgct
2880
ttcttgcccc acctgccggc tggttccagc agcgtgggg cccagctggg gggccgggat
2940
gggggcttct ctctctggga ggggtgcagg tgccctcccc aggtgggag ggttccttcc
3000
ctagctcccc atctgcccc gctggtgaga gttgggcttc ttggtcttg aactccctgg
3060
cattgggaac agagcatttc cagcatttgt tgttggtgt ttactcacct aacccttaga
3120
aaatgaatgt tagaagggtc ctgccgaggc gggacagagt gtttctcgc gctggagaag
3180
gctctgtca gccctgagag tcccttcctg cccaccgat actggcactt taaaaggaa
3240
gctgaccga cagtgtccag acgaattggc cccagaaga tggggagttc tgtcctgcc
3300
ttctgtgtct gcgtgacctc acccagccta ggaggagggt gcattcagg tagatttgcc
3360
tctcattcaa agttctgggg ctttgggcgg aaaacagcca gcttggcgc tgttggggag
3420
actcctccag accaggaacc ccagaaggag acagagcctg ccacatctc ccacgccag
3480
ccctgggcca gggtgatttg actgagaatt tggccacaac caaatgatg ctggctggaa
3540
ccagaggcca gaaagcctgg ccttgctccc atgtgggagc cctgtcctca gccctctgt
3600
ccccttgagc tcagtgaatt ccaccagggt gccacagct cctggacttc aaattctata
3660
tattgagaga gttggagagt atatcagaga tatttttggg aaggagtgg tctatgcaat
3720
gtcagtttg aatcttcttg aaagttaat gtttttatta ggagatttaa agaaaataaa
3780
ggcttacaat atcttttaggt tttttttttt tctgtttac cgcacaaact gaccacatgg
3840
catgtctatc aggatggagg gtgtccatgt tctcctctgt ctttagggag gtgataagga
3900
gatgggcgga ggggtgtttt tttctttgac tccccctct tctaacagaa tgttgccacc
3960
actgcttgag tgggctgtgt ttgttctct gtcccagctt cttgttactt tatcatattg
4020
actttagggt caaaggcaac atcagaagaa gtcagatatg tatagtgaca ttccaggggt
4080
ggggaagggt tagggatcca gggttctccc ggtcttggcc acaggcacia tcatcacctt
4140
catcgttcca gattcctggg gagaaaactg agaagatcgt tacctgccag cctcatcgg
4200
agcaaaagct ctgtcctcag ggccaagttc taaccactgc tctgtagacc ttctctgcaa
4260

tcaagtggcc tctaaggagc atgcctgagg acaaataact gtgcctcagt ttcctcacct
 4320
 gcagatgggg ttatcaaata acacgagtgt gcagcctgac ctgcaggagg tgtgagtgtg
 4380
 ttcccaaaact aaagcccccag gctgccatca ttacaggct a
 4421

<210> 3684

<211> 384

<212> PRT

<213> Homo sapiens

<400> 3684

Met Ala Phe Leu Met Lys Lys Lys Lys Phe Lys Phe Gln Thr Thr Phe
 1 5 10 15
 Thr Leu Glu Glu Leu Thr Ala Val Pro Phe Val Asn Gly Val Leu Phe
 20 25 30
 Cys Lys Val Arg Leu Leu Asp Gly Gly Asp Phe Val Ser Leu Ser Ser
 35 40 45
 Arg Glu Glu Val Gln Glu Asn Cys Val Arg Trp Arg Lys Arg Phe Thr
 50 55 60
 Phe Val Cys Lys Met Ser Ala Asn Pro Ala Thr Gly Leu Leu Asp Pro
 65 70 75 80
 Cys Val Phe Arg Val Ser Val Arg Lys Glu Leu Lys Gly Gly Lys Ala
 85 90 95
 Tyr Ser Lys Leu Gly Phe Ala Asp Leu Asn Leu Ala Glu Phe Ala Gly
 100 105 110
 Ser Gly Ser Thr Val Arg Cys Cys Leu Leu Glu Gly Tyr Asp Thr Lys
 115 120 125
 Asn Thr Arg Gln Asp Asn Ser Ile Leu Lys Val Thr Ile Gly Met Phe
 130 135 140
 Leu Leu Ser Gly Asp Pro Cys Phe Lys Thr Pro Pro Ser Thr Ala Lys
 145 150 155 160
 Ser Ile Ser Ile Pro Gly Gln Asp Ser Ser Leu Gln Leu Thr Cys Lys
 165 170 175
 Gly Gly Gly Thr Ser Ser Gly Gly Ser Ser Thr Asn Ser Leu Thr Gly
 180 185 190
 Ser Arg Pro Pro Lys Ala Arg Pro Thr Ile Leu Ser Ser Gly Leu Pro
 195 200 205
 Glu Glu Pro Asp Gln Asn Leu Ser Ser Pro Glu Glu Val Phe His Ser
 210 215 220
 Gly His Ser Arg Asn Ser Ser Tyr Ala Ser Gln Gln Ser Lys Ile Ser
 225 230 235 240
 Gly Tyr Ser Thr Glu His Ser His Ser Ser Ser Leu Ser Asp Leu Thr
 245 250 255
 His Arg Arg Asn Thr Ser Thr Ser Ser Ser Ala Ser Gly Gly Leu Gly
 260 265 270
 Met Thr Val Glu Gly Pro Glu Gly Ser Glu Arg Glu His Arg Pro Pro
 275 280 285
 Glu Lys Pro Pro Arg Pro Pro Arg Pro Leu His Leu Ser Asp Arg Ser
 290 295 300
 Phe Arg Arg Lys Lys Asp Ser Val Glu Ser His Pro Thr Trp Val Asp
 305 310 315 320
 Asp Thr Arg Ile Asp Ala Asp Ala Ile Val Glu Lys Ile Val Gln Ser

	325		330		335
Gln Asp Phe Thr Asp Gly Ser Asn Thr Glu Asp Ser Asn Leu Arg Leu					
	340		345		350
Phe Val Ser Arg Asp Gly Ser Ala Thr Leu Ser Gly Ile Gln Leu Ala					
	355		360		365
Thr Arg Val Ser Ser Gly Val Tyr Glu Pro Val Val Ile Glu Ser His					
	370		375		380

<210> 3685

<211> 1293

<212> DNA

<213> Homo sapiens

<400> 3685

```

tccatgcagc gatcccccttg gccagaagaa ggtccattca ttcagttggg gggttcatct
60
cagacaacct cccgtcatca ccccttgagt gagacctaa ccttcaccgc agccttcgag
120
gtgccgtggt ctggtgggccc ccttcctgct cctctgtggc tctccccgcc gccattctga
180
tactggcgct cccaatctcc ttgagaaacc attttctcta ctctgatgtc ttttcagaag
240
tcacatcctg ttctggggat gcacccctgc tcctccagcc ccacccaaac tgacttaaca
300
cccaccaccc ttcccaggtc agcccaaatg ccacttcccc caggaagctc tccttgatgc
360
tgccctggat ggaatgagtc agacctgctg ttgtggggcc ctggccgcgc ctagatacac
420
ttctagggtc tatactcgag tatccaggtg atctagggtc tatactcgag tatccaggtg
480
accacactgc tgaagttggc ttctcctgat caggcatcaa ctctgggact gcgtttgccg
540
attctgttcc ctaacgcagc cgcagggggcc agcacgctgc ctggcacgtc atggggggctc
600
ctccatgttg ggtggatatg cgaacggctt cctgagaaaag tgcaggatgt aaaggaaagc
660
ggagggtggc ggcggcgtgg agggcagagg caaggcacac ggcgaggact gcgttgggcc
720
ggcctgtggt ctgtttcaca gcagacaggg aatagcagca gcctgcagtg tgctccagaa
780
gacagtgggg aaggggcctg gctgacatct cgccaccggg tcagcctgta tcctcttcc
840
cccatctttc tgtatcata aaggatccct tgagccactt gattttcaca ctgtcaatga
900
cctagagtca ccaaacacct ctcaacaagc cgtggtctcc acttgacatc tggacaacac
960
ctcctcgggt ctgggaggac cagcgtcga aagggaagag cagaggacgc tggctctcat
1020
ggcaggatgg tgtgtgtacg ggacgcgtct ttcgggagga tgacggcggc cttggagagc
1080
cccagaatgt cacaagcgtc catgaattcc ttcagactct ggaagctcga aacattctgc
1140
ctatctgagg ttgagatcag gatcacatca gagactccag ctctggccat ttaggggtct
1200

```

gcaccctgac ccccatccct accccaggag ctgctgaaat gtcctcagag cttaggcgtg
1260
aagcaggggt tggtcagggg aggacagcgg ccg
1293

<210> 3686
<211> 111
<212> PRT
<213> Homo sapiens

<400> 3686
Met Gly Glu Gly Gly Tyr Arg Leu Thr Gly Trp Arg Asp Val Ser Gln
1 5 10 15
Ala Pro Ser Pro Leu Ser Ser Gly Ala His Cys Arg Leu Leu Phe
20 25 30
Pro Val Cys Cys Glu Thr Asp His Arg Pro Ala Gln Arg Ser Pro Arg
35 40 45
Arg Val Pro Cys Leu Cys Pro Pro Arg Arg Arg His Pro Pro Arg Ser
50 55 60
Phe Thr Ser Cys Thr Phe Ser Gly Ser Arg Ser His Ile His Pro Thr
65 70 75 80
Trp Arg Ser Pro His Asp Val Pro Gly Ser Val Leu Ala Pro Ala Ala
85 90 95
Ala Leu Gly Asn Arg Ile Gly Lys Arg Ser Pro Arg Val Asp Ala
100 105 110

<210> 3687
<211> 566
<212> DNA
<213> Homo sapiens

<400> 3687
nncggggcca agctcaaagc ttccagccgc acgtctgcct tgcctcggg cttcgccatg
60
gtggccatgg tggaggtgca gctggagagt gaccacgagt acccaccagg cctgctggtg
120
gctgtgcacc tctttgcact catgngtctc cactgtctctg ctgccccaca ttgaagctgt
180
nngagcaaca tccacaacct caactctgtc caccagtcgc cacaccagag actgcaccgc
240
tacgtggagc tggcctgggg cttctccact gccctgggca cttttctctt ccttgcctgaa
300
gttgctctgg ttggttgggt caagtctgtg cccattgggg ctcctctgga cacaccgacc
360
cccatgggtc ccacatcccg ggtgcccggg actctggcac cagtggctac ctcccttagt
420
ccagcttcca atctcccacg gtcctctgcg tctgcagcac cgtcccaggc tgagccagcc
480
tgcccccccc ggcaagcctg tgggtggtgt gggggccatg ggccaggctg gcaagcagcc
540
atggcctcca cagccatcat ggtacc
566

<210> 3688

<211> 57
 <212> PRT
 <213> Homo sapiens

<400> 3688
 Xaa Gly Ala Lys Leu Lys Ala Ser Ser Arg Thr Ser Ala Leu Leu Ser
 1 5 10 15
 Gly Phe Ala Met Val Ala Met Val Glu Val Gln Leu Glu Ser Asp His
 20 25 30
 Glu Tyr Pro Pro Gly Leu Leu Val Ala Val His Leu Phe Ala Leu Met
 35 40 45
 Xaa Leu His Val Ser Ala Ala Pro His
 50 55

<210> 3689
 <211> 1562
 <212> DNA
 <213> Homo sapiens

<400> 3689
 ggggtggggg ggccggagca gagagcacc agcccgagg gtggatgaat gtgggagaaa
 60
 atggagacca agacatcgt gtacgacttg gacacatcag gggggctgat ggagcaaatc
 120
 caagctctgc tggctcccc caagacggac gaggcagaaa agcgagtcg gaagcctgag
 180
 aaggagcccc ggagaagcgg cagggccacc aaccacgaca gctgcgatag ctgcaaggaa
 240
 ggtggagatc tcctgtgctg cgaccactgc cgggctgcct tccacctcca gtgctgtaac
 300
 cctccactga gtgaagaaat gttgcctcct ggagagtgga tgtgtcaccg gtgcactgtt
 360
 cgccgaaaga aacgagagca gaaaaaggag ctgggtcatg tcaatggact ggtggacaaa
 420
 tctggcaaac ggactacatc cccagcagt gacactgact tgttgacag atcgccagc
 480
 aaaactgaac taaaggccat tgcccatgcc cggatcctgg aaaggagagc cagcaggcct
 540
 ggcacaccca catccagcg cagcacagag actccacct ctgagcagaa tgatgtcgac
 600
 gaagacatca ttgacgtgga tgaggaacca gtagcagcgg agccagacta tgtgcagccc
 660
 cagctgaggg ggccctttga gctgctgatt gctgccgcca tggagcggaa cccacccaa
 720
 ttccagtgc ccaatgaact gacttgtacc actgcactac caggttctag caagaggaga
 780
 agaaaggagg aaaccacagg gaaaaatgtt aagaagacac agcatgaatt agatcacaat
 840
 ggtctcgttc ccttaccctg caaagtctgc ttcacgtgta acaggagtgt cgtgtgggt
 900
 cctctcatcc agtgtgacta ttgccctctc ctgtttcaca tggattgcct cgagccgccc
 960
 ctactgcca tgcccctggg cagatggatg tgtccgaatc acatcgaaca tgtggtgctg
 1020

aaccagaaga atatgacact gagcaatcgg tgccaggtgt ttgatcggtt ccaggacacc
1080
gtttcgagc atgtcgtaaa agtggacttc ctgaaccgaa tccacaagaa gcacccccct
1140
aaccggcgtg tgctccagtc ggtcaaaaga agaagcttga aggttcctga tgctataaaa
1200
tctcagtacc agtttcacc cctctcatt gcacccgagg ccattcggga cggggagctg
1260
atctgcaatg ggaatccctga ggaatcacag atgcaccttt tgaactctga gcacttagcc
1320
acccaagcag agcagcaaga gtggctctgt agtgttgttg cgctccagtg cagcatattg
1380
aaacatttat ctgctaagca gatgccttcg cattgggact ctgaacagac agagaaggct
1440
gatattaagc ctgttattgt gactgacagc tcagtcacca cctccctgca aacagctgac
1500
aagacaccta caccttccca ctaccccttg tctgcccct cagggattag caccagaat
1560
tc
1562

<210> 3690

<211> 504

<212> PRT

<213> Homo sapiens

<400> 3690

Met	Trp	Glu	Lys	Met	Glu	Thr	Lys	Thr	Ile	Val	Tyr	Asp	Leu	Asp	Thr
1				5					10				15		
Ser	Gly	Gly	Leu	Met	Glu	Gln	Ile	Gln	Ala	Leu	Leu	Ala	Pro	Pro	Lys
			20				25						30		
Thr	Asp	Glu	Ala	Glu	Lys	Arg	Ser	Arg	Lys	Pro	Glu	Lys	Glu	Pro	Arg
			35				40					45			
Arg	Ser	Gly	Arg	Ala	Thr	Asn	His	Asp	Ser	Cys	Asp	Ser	Cys	Lys	Glu
			50			55					60				
Gly	Gly	Asp	Leu	Leu	Cys	Asp	His	Cys	Pro	Ala	Ala	Phe	His	Leu	
65					70				75				80		
Gln	Cys	Cys	Asn	Pro	Pro	Leu	Ser	Glu	Glu	Met	Leu	Pro	Pro	Gly	Glu
			85						90				95		
Trp	Met	Cys	His	Arg	Cys	Thr	Val	Arg	Arg	Lys	Lys	Arg	Glu	Gln	Lys
			100				105					110			
Lys	Glu	Leu	Gly	His	Val	Asn	Gly	Leu	Val	Asp	Lys	Ser	Gly	Lys	Arg
			115			120					125				
Thr	Thr	Ser	Pro	Ser	Ser	Asp	Thr	Asp	Leu	Leu	Asp	Arg	Ser	Ala	Ser
			130			135					140				
Lys	Thr	Glu	Leu	Lys	Ala	Ile	Ala	His	Ala	Arg	Ile	Leu	Glu	Arg	Arg
145					150				155				160		
Ala	Ser	Arg	Pro	Gly	Thr	Pro	Thr	Ser	Ser	Ala	Ser	Thr	Glu	Thr	Pro
			165						170				175		
Thr	Ser	Glu	Gln	Asn	Asp	Val	Asp	Glu	Asp	Ile	Ile	Asp	Val	Asp	Glu
			180					185				190			
Glu	Pro	Val	Ala	Ala	Glu	Pro	Asp	Tyr	Val	Gln	Pro	Gln	Leu	Arg	Arg
			195				200					205			
Pro	Phe	Glu	Leu	Leu	Ile	Ala	Ala	Ala	Met	Glu	Arg	Asn	Pro	Thr	Gln

```

      210              215              220
Phe Gln Leu Pro Asn Glu Leu Thr Cys Thr Thr Ala Leu Pro Gly Ser
225              230              235              240
Ser Lys Arg Arg Arg Lys Glu Glu Thr Thr Gly Lys Asn Val Lys Lys
      245              250              255
Thr Gln His Glu Leu Asp His Asn Gly Leu Val Pro Leu Pro Val Lys
      260              265              270
Val Cys Phe Thr Cys Asn Arg Ser Cys Arg Val Ala Pro Leu Ile Gln
      275              280              285
Cys Asp Tyr Cys Pro Leu Leu Phe His Met Asp Cys Leu Glu Pro Pro
290              295              300
Leu Thr Ala Met Pro Leu Gly Arg Trp Met Cys Pro Asn His Ile Glu
305              310              315              320
His Val Val Leu Asn Gln Lys Asn Met Thr Leu Ser Asn Arg Cys Gln
      325              330              335
Val Phe Asp Arg Phe Gln Asp Thr Val Ser Gln His Val Val Lys Val
      340              345              350
Asp Phe Leu Asn Arg Ile His Lys Lys His Pro Pro Asn Arg Arg Val
      355              360              365
Leu Gln Ser Val Lys Arg Arg Ser Leu Lys Val Pro Asp Ala Ile Lys
370              375              380
Ser Gln Tyr Gln Phe Pro Pro Leu Ile Ala Pro Ala Ala Ile Arg
385              390              395              400
Asp Gly Glu Leu Ile Cys Asn Gly Ile Pro Glu Glu Ser Gln Met His
      405              410              415
Leu Leu Asn Ser Glu His Leu Ala Thr Gln Ala Glu Gln Gln Glu Trp
      420              425              430
Leu Cys Ser Val Val Ala Leu Gln Cys Ser Ile Leu Lys His Leu Ser
      435              440              445
Ala Lys Gln Met Pro Ser His Trp Asp Ser Glu Gln Thr Glu Lys Ala
      450              455              460
Asp Ile Lys Pro Val Ile Val Thr Asp Ser Ser Val Thr Thr Ser Leu
      465              470              475              480
Gln Thr Ala Asp Lys Thr Pro Thr Pro Ser His Tyr Pro Leu Ser Cys
      485              490              495
Pro Ser Gly Ile Ser Thr Gln Asn
500

```

```

<210> 3691
<211> 418
<212> DNA
<213> Homo sapiens

```

```

<400> 3691
ncggccgccc agttcgacgg gaggtggccc aggcaaatag tgcacatgat tggcctatgt
60
cgttatgggtg ggaggattga ctgctgctgg ggctgggctc gccagtccttg gggacagtgt
120
cagcctttct acgtcttaag gcagagaata gccaggataa ggtgccagct caaagctgtg
180
tgccaaccac gatgcaaaca tgggtgaatgt atcggggccaa acaagtgcaa gtgtcatcct
240
ggttatgctg gaaaaacctg taatcaaggt aggaaaacag tctgacataa atacacaatc
300

```

gaagacacct ctatcactcc caaattaaaa atattcttat ctcaaactac ttcccatggc
 160
 tattttttcca aaatatgtga gctgccattt tgctgataaa taaaaatata ttaatgat
 418

<210> 3692
 <211> 94
 <212> PRT
 <213> Homo sapiens

<400> 3692
 Xaa Ala Ala Glu Phe Asp Gly Arg Trp Pro Arg Gln Ile Val Ser Ser
 1 5 10 15
 Ile Gly Leu Cys Arg Tyr Gly Gly Arg Ile Asp Cys Cys Trp Gly Trp
 20 25 30
 Ala Arg Gln Ser Trp Gly Gln Cys Gln Pro Phe Tyr Val Leu Arg Gln
 35 40 45
 Arg Ile Ala Arg Ile Arg Cys Gln Leu Lys Ala Val Cys Gln Pro Arg
 50 55 60
 Cys Lys His Gly Glu Cys Ile Gly Pro Asn Lys Cys Lys Cys His Pro
 65 70 75 80
 Gly Tyr Ala Gly Lys Thr Cys Asn Gln Gly Arg Lys Thr Val
 85 90

<210> 3693
 <211> 2641
 <212> DNA
 <213> Homo sapiens

<400> 3693
 cggccgcgtc gacgggaaag agccgctaga gcagaccgcg ccgcccgcgg agccgcgcct
 60
 gccagggccc ggggaggag gaggcggcg tcagggtgct gcgccccgct cggcgtccga
 120
 gtttcggcc gggctgtgcc ccgcgcggtc ttgcgcggga tgaagcgccc ctgcgaggag
 180
 acgacctccg agagcgacat ggacgagacc atcgacgtgg ggagcgagaa caattactcg
 240
 gggcaaagta ctgctctgt gattagattg aattctccaa caacaacatc tcagattatg
 300
 gcaagaaaga aaaggagagg gattatagag aaaaggcgtc gggatcggat aaataacagt
 360
 ttatctgagt tgagaagact tgtgccact gcttttgaaa aacaaggatc tgcaaagtta
 420
 gaaaaagctg aaatattgca aatgacagtg gatcatttga agatgcttca ggcaacaggg
 480
 ggtaaaaggct actttgacgc acacgctctt gccatggact tcatgagcat aggattccga
 540
 gagtgcctaa cagaagttgc gcggtacctg agctccgtgg aaggcctgga ctctcggat
 600
 ccgctgcggg tgcggcttgt gtctcatctc agcacttgcg ccaccagcg ggaggcggcg
 660
 gccatgacat cctccatggc ccaccacnca tcatccgctc caccgcgac actggggcgc
 720

cgctttccac cacctgcccc cagccctgct ccagcccaac ggctccatg cctcagagtc
780
aacccttgt cgctctcca caacttcaga agtgcctccg cccacggctc tgcctctctc
840
acggccacgt ttgcccagc ggattcagcc ctccgaatgc catccacggg cagcgtcgcc
900
ccctgcgtgc cactctctc cactctctc ttgtccctct ctgccaccgt ccacgcgca
960
gccgcagcag ccacgcggc tgcacacagc ttccctctgt ccttcgcggg ggcatcccc
1020
atgcttcccc caaacgcagc agcagcagtg gccgcggcca cagccatcag cccgcccttg
1080
tcagtatcag ccacgtccag tcttcagcag accagcagtg gaacaaacaa taaaccttac
1140
cgaccctggg ggacagaagt tggagctttt taaatttttc ttgaacttct tgcaatagta
1200
actgaatgtc ctccatttca gagtcagctt aaaacctctg cacctgaag gtagccatac
1260
agatgccgac agatccacaa aggaacaata aagctatttg agacacaac ctacagagtg
1320
gaaatgtgtt attctctttt tttctctctc cttttttgtt tggttcaagg cagctcggt
1380
actgacatca gcaacttttg aaaacttcac acttgttacc atttagaagt ttctggaaa
1440
atatatggac cgtaccatcc agcagtgcat cagtatgtct gaattgggga agtaaaatgc
1500
cctgactgaa ttctcttgag actagatggg acatacatat atagagagag agtgagagag
1560
tcgtgttttg taagtgcctg agcttaggaa gttttcttct ggatatataa cattgcacaa
1620
gggaagacga gtgtggagga taggttaaga aaggaaaggg acagaagtct tgcaataggc
1680
tgcagacatt ttaataccat gccagagaag agtattctgc tgaaaccaac aggttttact
1740
ggcctaaaat actgctgaaa ataattttca agttgaaaga tctagtttta tcttagtttg
1800
ccttctttgt acagacatgc caagaggta catttagcag tgcattggta taagcaatta
1860
tttcatcagt tctcagatta acaagcattt ctgctctgcc tgcaggcccc caggcacttt
1920
ttttttggat ggctcaaaat atggtgcttc tttatataaa ctttacattt atatagtga
1980
cctatgagca gttgcctacc atgtgtccac cagaggctat ttaattcatg ccaacttgaa
2040
aactctccag ttgtaggag ttggtttta tttattcagt ttcattagga ctatttttat
2100
atatttatcc tcttcatttt ctctaatga tgcaacatct attcttgtca ccctttggga
2160
gaagttacat ttctggaggt gatgaagcaa ggaggagca ctaggaagag aaaagctaca
2220
atttttaaag ctctttgtca agttagtga tgcatttgat cccaaaacaa gatgaatga
2280
tgcaatggga tgtacataag ttatttttgc ccatgcctaa actagtgcct tgtaatggg
2340

ttgtggtttt gtttttttcg atttcgttta atgacaaaat aatctcttaa tatgctgaaa
 2400
 tcaagcacgt gagagttttt gtttaaaaga taagagacac agcatgtatt atgcacttca
 2460
 ttctcttact gtgtggagaa agcaataaac attatgagaa tgttaaactg tatgcaaaat
 2520
 tatacttttta aatatttggt ttgaaattac tgtacctagt cttttttgca ttactttgta
 2580
 acctttttct atgcaagagt ctttacatag cactaattaa atgaagtcct ttttgactat
 2640
 t
 2641

<210> 3694
 <211> 390
 <212> PRT
 <213> Homo sapiens

<400> 3694
 Arg Pro Arg Arg Glu Arg Ala Ala Arg Ala Asp Arg Ala Ala Ala
 1 5 10 15
 Gly Ala Ala Pro Ala Gln Ala Arg Gly Gly Arg Arg Arg Ala Ser Gly
 20 25 30
 Cys Cys Ala Pro Leu Gly Val Arg Ala Ser Gly Arg Ala Val Pro Arg
 35 40 45
 Ala Val Phe Ala Gly Met Lys Arg Pro Cys Glu Glu Thr Thr Ser Glu
 50 55 60
 Ser Asp Met Asp Glu Thr Ile Asp Val Gly Ser Glu Asn Asn Tyr Ser
 65 70 75 80
 Gly Gln Ser Thr Ser Ser Val Ile Arg Leu Asn Ser Pro Thr Thr Thr
 85 90 95
 Ser Gln Ile Met Ala Arg Lys Lys Arg Arg Gly Ile Ile Glu Lys Arg
 100 105 110
 Arg Arg Asp Arg Ile Asn Asn Ser Leu Ser Glu Leu Arg Arg Leu Val
 115 120 125
 Pro Thr Ala Phe Glu Lys Gln Gly Ser Ala Lys Leu Glu Lys Ala Glu
 130 135 140
 Ile Leu Gln Met Thr Val Asp His Leu Lys Met Leu Gln Ala Thr Gly
 145 150 155 160
 Gly Lys Gly Tyr Phe Asp Ala His Ala Leu Ala Met Asp Phe Met Ser
 165 170 175
 Ile Gly Phe Arg Glu Cys Leu Thr Glu Val Ala Arg Tyr Leu Ser Ser
 180 185 190
 Val Glu Gly Leu Asp Ser Ser Asp Pro Leu Arg Val Arg Leu Val Ser
 195 200 205
 His Leu Ser Thr Cys Ala Thr Gln Arg Glu Ala Ala Met Thr Ser
 210 215 220
 Ser Met Ala His His Xaa Ser Ser Ala Pro Pro Ala Ser Leu Gly Arg
 225 230 235 240
 Arg Leu Pro Pro Pro Ala Arg Ser Pro Ala Pro Ala Gln Arg Pro Pro
 245 250 255
 Cys Leu Arg Val Asn Pro Leu Ser Pro Leu His Asn Phe Arg Ser Ala
 260 265 270
 Ser Ala His Gly Ser Ala Leu Leu Thr Ala Thr Phe Ala His Ala Asp

275 280 285
 Ser Ala Leu Arg Met Pro Ser Thr Gly Ser Val Ala Pro Cys Val Pro
 290 295 300
 Pro Leu Ser Thr Ser Leu Leu Ser Leu Ser Ala Thr Val His Ala Ala
 305 310 315 320
 Ala Ala Ala Ala Thr Ala Ala Ala His Ser Phe Pro Leu Ser Phe Ala
 325 330 335
 Gly Ala Phe Pro Met Leu Pro Pro Asn Ala Ala Ala Val Ala Ala
 340 345 350
 Ala Thr Ala Ile Ser Pro Pro Leu Ser Val Ser Ala Thr Ser Ser Pro
 355 360 365
 Gln Gln Thr Ser Ser Gly Thr Asn Asn Lys Pro Tyr Arg Pro Trp Gly
 370 375 380
 Thr Glu Val Gly Ala Phe
 385 390

<210> 3695
 <211> 1615
 <212> DNA
 <213> Homo sapiens

<400> 3695
 nggaaaagta gcctaaagtc agtataacta aagggtggaa cgaggtggga caaggtccgg
 60
 aattgtctgt cagtgtgtg tgtgtgctg cgcgtggtg agctgagact gctcatctca
 120
 gaaggatggg gatgcttgat ttccctggcca ggttgtecca gcacagtggg gattggccct
 180
 gttgtatgac gaagacagca catggtggca gagatagata ctaacccatg gactttccaa
 240
 gggaggggaat aggtcttttg agggatgca agacaaaggt agacactgga taaagaaccc
 300
 ggtagtgccc aggtattacc ccatctgggc cattactccc acactcagga accagacgtt
 360
 gtgggtgagg acatgctgtc cctcctgcca agtaataact tccttcccag ccaggatcct
 420
 gccccaagta ggaatatagc tctgcattta cagcagctcc tgctcagacc ttgtcaaaac
 480
 caccctgcag cttaggatta aggagcatgg tcacaggaag gtgggggttc agggcatccc
 540
 ctcaggaact gcccatctcc ccagaattcc aaaatgaagg tccatattgt ttaggtgtg
 600
 ctggtcatgg tgggcttcac agtaggaaag ggtaagtggg gccaggggc agggaggag
 660
 gaaggggtaa ctgagtcag gaaggggggt gagcgtggcc atggataatc gggcttccca
 720
 ctggcccagg gtatttgaga gtgacccagt gcctccatcc ctccctctgc ctcccagtt
 780
 cctgttcccc acatccggac gtgccacttc tgcctcgtag aagacccttc ttaggatgc
 840
 atttcaggct cagagaagtg taccatcagc agctcatccc tgtgcatggt gatcaccatc
 900
 tattatgatg tcaaggttcg cttcatcggt cgaggctgtg gacagtacat ttcctaccgc
 960

tgccaagaaa aacgcaacac ctactttgca gagtactggt atcaggccca gtgctgtcag
 1020
 tacgattatt gcaactcctg gtcaagcccc caactccaga gctctctgcc ggagcccat
 1080
 gacaggcccc tggccctgcc tctgtctgac tcccagattc agtggttcta ccaggccctg
 1140
 aacctctccc tggccctccc caatttccat gctgggacgg agcctgatgg cctggacccc
 1200
 atgggtcacac tgtccctgaa cctgggcttg tcttttgctg agctgcgcgc catgtacttg
 1260
 ttcttcaata gttcaggact tttgggttctt ccccaggctg gactcttgac acctcacct
 1320
 tcctgaattc cacagtcaa atatctttct gtaacacct cagcatcctg cactgccctc
 1380
 tctgaaaaca cccacattct ttggtcactg tgatttctta ggcctccgct tgtgtacca
 1440
 ctagcatcta tatgactttt gtgtaatttt ctctcttgaa ctccggaggc tgagacggga
 1500
 gaatcgcttg aaccggggag gcggaggttg cagtgaagcg agatcgcgcc actgcactcc
 1560
 agcctgggtg acacagttag actccgtctc caaaaaaag gatgaggaat agaat
 1615

<210> 3696

<211> 146

<212> PRT

<213> Homo sapiens

<400> 3696

Met Val Ile Thr Ile Tyr Tyr Asp Val Lys Val Arg Phe Ile Val Arg
 1 5 10 15
 Gly Cys Gly Gln Tyr Ile Ser Tyr Arg Cys Gln Glu Lys Arg Asn Thr
 20 25 30
 Tyr Phe Ala Glu Tyr Trp Tyr Gln Ala Gln Cys Cys Gln Tyr Asp Tyr
 35 40 45
 Cys Asn Ser Trp Ser Ser Pro Gln Leu Gln Ser Ser Leu Pro Glu Pro
 50 55 60
 His Asp Arg Pro Leu Ala Leu Pro Leu Ser Asp Ser Gln Ile Gln Trp
 65 70 75 80
 Phe Tyr Gln Ala Leu Asn Leu Ser Leu Pro Leu Pro Asn Phe His Ala
 85 90 95
 Gly Thr Glu Pro Asp Gly Leu Asp Pro Met Val Thr Leu Ser Leu Asn
 100 105 110
 Leu Gly Leu Ser Phe Ala Glu Leu Arg Arg Met Tyr Leu Phe Leu Asn
 115 120 125
 Ser Ser Gly Leu Leu Val Leu Pro Gln Ala Gly Leu Leu Thr Pro His
 130 135 140
 Pro Ser
 145

<210> 3697

<211> 550

<212> DNA

<213> Homo sapiens

<400> 3697
 ncggccgccc agttcgacgg gaggtggccc agggaaaatag tgtcatcgat tggcctatgt
 60
 cgttatgggtg ggaggattga ctgctgctgg ggtggggctc gccagtcttg gggacagtgt
 120
 cagcctgtgt gccaacccag atgcaaacat ggtgagtga tcgggcaaaa caagtgaag
 180
 tgtcatcctg gttatgctgg aaaaacctgt aatcaagatc taaatgagt tggcctgaag
 240
 ccccgccctt gtaagcacag gtgcatgaac acttacggca gctacaagt ctactgtctc
 300
 aacggatata tgctcatgcc ggatgggtcc tgcacaagt cctgacctg ctccatggca
 360
 aactgtcagt atggctgtga tgttgtaaa ggacaaatac ggtgccagt cccatccct
 420
 ggctgcagc tggctcctg tgggaggacc tgtgtagat ttgatgaat tgctacagga
 480
 agagcctct gccctaaatt taggcaatgt gtcaacactt ttgggagcta catctgaag
 540
 tgcataaag
 550

<210> 3698
 <211> 183
 <212> PRT
 <213> Homo sapiens

<400> 3698
 Xaa Ala Ala Glu Phe Asp Gly Arg Trp Pro Arg Gln Ile Val Ser Ser
 1 5 10 15
 Ile Gly Leu Cys Arg Tyr Gly Gly Arg Ile Asp Cys Cys Trp Gly Trp
 20 25 30
 Ala Arg Gln Ser Trp Gly Gln Cys Gln Pro Val Cys Gln Pro Arg Cys
 35 40 45
 Lys His Gly Glu Cys Ile Gly Pro Asn Lys Cys Lys Cys His Pro Gly
 50 55 60
 Tyr Ala Gly Lys Thr Cys Asn Gln Asp Leu Asn Glu Cys Gly Leu Lys
 65 70 75 80
 Pro Arg Pro Cys Lys His Arg Cys Met Asn Thr Tyr Gly Ser Tyr Lys
 85 90 95
 Cys Tyr Cys Leu Asn Gly Tyr Met Leu Met Pro Asp Gly Ser Cys Ser
 100 105 110
 Ser Ala Leu Thr Cys Ser Met Ala Asn Cys Gln Tyr Gly Cys Asp Val
 115 120 125
 Val Lys Gly Gln Ile Arg Cys Gln Cys Pro Ser Pro Gly Leu Gln Leu
 130 135 140
 Ala Pro Asp Gly Arg Thr Cys Val Asp Val Asp Glu Cys Ala Thr Gly
 145 150 155 160
 Arg Ala Ser Cys Pro Lys Phe Arg Gln Cys Val Asn Thr Phe Gly Ser
 165 170 175
 Tyr Ile Cys Lys Cys His Lys
 180

<210> 3699
<211> 510
<212> DNA
<213> Homo sapiens

<400> 3699
naggagagag attgagaact atgagagaca gcagctaaga gacaaaggag gcgggagact
60
gcctaggtgc cgcagcaccc acaccgtcct cttgcccccc cgccactggg accccagagc
120
tggcccttga tggaggggag cgcacctcgc agcagcctga gcctggccag cagcgccctcc
180
accatctcct cgctcagcag cctgagcccc aagaagccca cccgggcagt aaacaaggtc
240
cacgcctttg ggaagagagg caatgcgctc aggagggatc ccaaccttcc cgtgcacatc
300
cgaggctggc ttcataagca ggacagctcg gggctccgtc tctggaaacg ccgctggttc
360
gtcctctccg gccattgcct cttttattac aaggacagcc gcgaggagag tgccttaggc
420
agcgtcctgc tccccagcta caatattaga ccagatgggc cgggagcccc ccgagggcgg
480
cgcttcacct tcaccgcaga gcacccgggt
510

<210> 3700
<211> 127
<212> PRT
<213> Homo sapiens

<400> 3700
Met Glu Gly Ser Arg Pro Arg Ser Ser Leu Ser Leu Ala Ser Ser Ala
1 5 10 15
Ser Thr Ile Ser Ser Leu Ser Ser Leu Ser Pro Lys Lys Pro Thr Arg
20 25 30
Ala Val Asn Lys Val His Ala Phe Gly Lys Arg Gly Asn Ala Leu Arg
35 40 45
Arg Asp Pro Asn Leu Pro Val His Ile Arg Gly Trp Leu His Lys Gln
50 55 60
Asp Ser Ser Gly Leu Arg Leu Trp Lys Arg Arg Trp Phe Val Leu Ser
65 70 75 80
Gly His Cys Leu Phe Tyr Tyr Lys Asp Ser Arg Glu Glu Ser Val Leu
85 90 95
Gly Ser Val Leu Leu Pro Ser Tyr Asn Ile Arg Pro Asp Gly Pro Gly
100 105 110
Ala Pro Arg Gly Arg Arg Phe Thr Phe Thr Ala Glu His Pro Gly
115 120 125

<210> 3701
<211> 733
<212> DNA
<213> Homo sapiens

<400> 3701

ntgaattttc aaattacatt ctaggtttgc agcctctgga gcgtccagcg tcacattatt
 60
 attcactcag gagaanaacc acacttgtgt gacatctgtg gtcgaggggt tagtaacttc
 120
 agtaatttga aggagcacia aaagacacac acggctgata aagtcttcac ctgtgatgag
 180
 tgtggaaagt cttttaatat gcaaaggag ttagtaaagc acagaattcg gcacacgggg
 240
 gaggcgctt acagctgctc tgcctgcggg aaatgttttg ggggatcagg tgacctccgc
 300
 aggcattgtc gcactcacac tggggagaag ccgtacacat gtgagatctg taacaagtgc
 360
 ttaccgct ctgcggtgct ccggcgccac aagaagatgc actgcaaagc tggtgacgag
 420
 agccagatg tgctggagga gctcagcaa gccatcgaga cctccgacct cgagaaatct
 480
 cagagctcag actctttctc ccaagacacg tctgtgacgc tgatgccagt gtcggttaa
 540
 ctccctgtcc acccagtga aaattctgtg gcagaatttg atagccactc tggcggtccc
 600
 tattgtaagt tacggtccat gatccaacct catggagtta gtgaccagga gaagctgagt
 660
 ttggatcctg gtaaaactgc caagccccag attcatcata cacagcctca tgctattct
 720
 tactctgatt ttg
 733

<210> 3702

<211> 236

<212> PRT

<213> Homo sapiens

<400> 3702

Val	Cys	Ser	Leu	Trp	Ser	Val	Gln	Arg	His	Ile	Ile	Ile	His	Ser	Gly
1			5					10					15		
Glu	Lys	Pro	His	Leu	Cys	Asp	Ile	Cys	Gly	Arg	Gly	Phe	Ser	Asn	Phe
			20					25					30		
Ser	Asn	Leu	Lys	Glu	His	Lys	Lys	Thr	His	Thr	Ala	Asp	Lys	Val	Phe
			35					40				45			
Thr	Cys	Asp	Glu	Cys	Gly	Lys	Ser	Phe	Asn	Met	Gln	Arg	Lys	Leu	Val
			50					55				60			
Lys	His	Arg	Ile	Arg	His	Thr	Gly	Glu	Arg	Pro	Tyr	Ser	Cys	Ser	Ala
			65					70				75			80
Cys	Gly	Lys	Cys	Phe	Gly	Gly	Ser	Gly	Asp	Leu	Arg	Arg	His	Val	Arg
			85					90					95		
Thr	His	Thr	Gly	Glu	Lys	Pro	Tyr	Thr	Cys	Glu	Ile	Cys	Asn	Lys	Cys
			100					105					110		
Phe	Thr	Arg	Ser	Ala	Val	Leu	Arg	Arg	His	Lys	Lys	Met	His	Cys	Lys
			115					120					125		
Ala	Gly	Asp	Glu	Ser	Pro	Asp	Val	Leu	Glu	Glu	Leu	Ser	Gln	Ala	Ile
			130					135					140		
Glu	Thr	Ser	Asp	Leu	Glu	Lys	Ser	Gln	Ser	Ser	Asp	Ser	Phe	Ser	Gln
			145					150					155		160
Asp	Thr	Ser	Val	Thr	Leu	Met	Pro	Val	Ser	Val	Lys	Leu	Pro	Val	His

	165		170		175										
Pro	Val	Glu	Asn	Ser	Val	Ala	Glu	Phe	Asp	Ser	His	Ser	Gly	Gly	Ser
	180		185		190										
Tyr	Cys	Lys	Leu	Arg	Ser	Met	Ile	Gln	Pro	His	Gly	Val	Ser	Asp	Gln
	195		200		205										
Glu	Lys	Leu	Ser	Leu	Asp	Pro	Gly	Lys	Leu	Ala	Lys	Pro	Gln	Ile	His
	210		215		220										
His	Thr	Gln	Pro	His	Ala	Tyr	Ser	Tyr	Ser	Asp	Phe				
225		230			235										

<210> 3703

<211> 3294

<212> DNA

<213> Homo sapiens

<400> 3703

```

nnccggccgcc gcgtccggct gctggaccga acttctgccg tgcggacagc aggagcagcg
60
ccgagcccca tccccacc tctccagctc gccctctgag cctcccgagc cctctctcca
120
tttccacaa ttgtgctgca catggtgatg agtttccggg tgcctgagct ccagggtgctt
180
cttggtttg ctggccggaa caagagtgga cggaagcacg agctcctggc caaggctctg
240
caccctctga agtccagctg tgcccctagt gtccagatga agatcaaaga gctttaccga
300
cgacgctttc cccggaagac cctggggccc tctgatctct ccttctctc tttgccccct
360
ggcacctctc ctgtaggctc cctgggtcct ctagctccca tcccccaac gctgttgggc
420
cctgggcccc tgctggggcc caagcgtgag gtggacatgc accccctct gcccagcct
480
gtgcaccctg atgtcaccat gaaaccattg cccttctatg aagtctatgg ggagctcatc
540
cggccccacca cccttgcatc cacttctagc cagcggtttg aggaagcgca ctttaccttt
600
gccctcacac cccagcaagt gcagcagatt cttacatcca gagaggttct gccaggagcc
660
aaatgtgatt ataccataca ggtgcagcta aggttctgtc tctgtgagac cagctgcccc
720
caggaagatt attttccccc caacctcttt gtcaaggta atgggaaact gtgccccctg
780
ccgggttacc tcccccaac caagaatggg gccgagccca agaggcccg ccgccccatc
840
aacatcacac ccctggctcg actctcagcc actgttccca acaccattgt ggtcaattgg
900
tcatctgagt tcggacggaa ttactccttg tctgtgtacc tggtagggca gttgactgca
960
ggaacccctc taaaaaact cagagcaaag ggtatccgga acccagacca ctgcggggca
1020
ctgatcaagg agaaattgac tgctgaccct gacagtgagg tggccactac aagtctccgg
1080
gtgtcactca tgtgcccgt agggaagatg cgcctgactg tcccttgctg tgccctcacc
1140

```

tgcgcccacc tgcagagctt cgatgctgcc ctttatctac agatgaatga gaagaagcct
1200
acatggacat gtcctgtgtg tgacaagaag gctccctatg aatctcttat cattgatggt
1260
ttattttatgg agattccttag ttctgtttca gattgtgatg agatccaatt catggaagat
1320
ggatcctggt gcccattgaa acccaagaag gaggcattctg aggtttgccc cccgccaggg
1380
tatgggctgg atggcctcca gtacagccca gtccaggggg gagatccatc agagaataag
1440
aagaaggctcg aagtatttga cttgacaata gaaagctcat cagatgagga ggatctgccc
1500
cctaccaaga agcactgttc tgtcacctca gctgccatcc cggccctacc tggaaagaaa
1560
ggagctctga catctggcca ccagccatcc tcggtgctaa ggagccctgc tatgggcacg
1620
ttgggtgggg atttctgtc cagtctccca ctacatgagt acccacttgc cttccactg
1680
ggagccgaca tccaagggtt agatttattt tcatttcttc agacagagag tcagcactat
1740
ggccctctctg tcatcacctc actagatgaa caggatgccc ttggccactt cttccagtac
1800
cgagggaccc cttctcactt tctgggcccc ctggccccc cgtgggggag ctcccactgc
1860
agcgcacactc cggcgccccc tcttggccgt gtcagcagca ttgtggcccc tggggggggc
1920
ttgagggaggy ggcatggagg acccctgccc tcaggtccct ctttgactgg ctgtcggta
1980
gacatcttt cctcggactg agttccctgg attatggaaa ctctcgtctc ccccaacat
2040
gagcaagtat gctgtggagt cccaacccca gctactctga tccctctggg ggctctggcc
2100
aaggggcaga cagacctca cagatgccta cttttggcct catctctgcc tgacaaggcc
2160
agcaccacaa gggttaatat ttaacctctt ttaaggaca ctgggggtctg tttctggaaa
2220
tgttctttag atggtggcac attccttttg gtatgttaac ctaggcagtg ggaggcaaat
2280
gggatgggtat gtgagctagg agaagggtg aaccctcagc cttgactatg tctagacct
2340
cttggggaag gggcacctct cttgaacccc aaatgctctc tcttcttatt acccaaaccc
2400
atggctctat ttcttcttca catccattgt ctcttcatgt ctattccatt cctctcggcc
2460
aaacagacag gtgaaaaaac tgagacaggc agtttcagag atggacagag aactttat
2520
tggattgtgg atgtggactt tttgtacat aaataagaaa aaccaaaata ctccaaagat
2580
gacttccctt gcctcctact ccagtatgac agaggaggat gtaaggcctt agccatgac
2640
tgcaggggtc tgggagtcag gcccgcccta ttgcttgggt ctctctctat ttatatatct
2700
aagttcacag tgtttcttat tccccctaa gcttctagag gctcatggcc ctgtagttag
2760

gcctggctca ttctgcacct ttccaggag gtggaaggac cctgtgccct ccttcccaat
 2820
 cttcttttcc aggctcgcca aggcctagga cctatgttgt aattttactt tttatttcta
 2880
 aagttgtagt gaagctctca ccataataa aggttgtgaa tgttctgtga gtgtcatgga
 2940
 gatgggctag ggaggggatt ttacacttca ctttccagac ccctggtttg ggggaagagg
 3000
 gtccatgttc cattcttctt ttgctggccc tgggtccagg taagctgcac ttttacacgg
 3060
 tgggggtgtt ctgcccagat gttgcagcca gagcttgagg gcaaacttgg ttccagtgtc
 3120
 gactctctct ttgtctcttg ccattggttg gatcatccgc aggaggttgg acatgtgcag
 3180
 gaccagaggt cgggctcttc catctctctc tagttccact gcaaggacag aggggtgtag
 3240
 gtcttggggg agaagtcagg gtgtctctgt cccatctctc gcggcagcca ctgc
 3294

<210> 3704

<211> 619

<212> PRT

<213> Homo sapiens

<400> 3704

Met Val Met Ser Phe Arg Val Ser Glu Leu Gln Val Leu Leu Gly Phe
 1 5 10 15
 Ala Gly Arg Asn Lys Ser Gly Arg Lys His Glu Leu Leu Ala Lys Ala
 20 25 30
 Leu His Leu Leu Lys Ser Ser Cys Ala Pro Ser Val Gln Met Lys Ile
 35 40 45
 Lys Glu Leu Tyr Arg Arg Arg Phe Pro Arg Lys Thr Leu Gly Pro Ser
 50 55 60
 Asp Leu Ser Leu Leu Ser Leu Pro Pro Gly Thr Ser Pro Val Gly Ser
 65 70 75 80
 Pro Gly Pro Leu Ala Pro Ile Pro Pro Thr Leu Leu Ala Pro Gly Thr
 85 90 95
 Leu Leu Gly Pro Lys Arg Glu Val Asp Met His Pro Pro Leu Pro Gln
 100 105 110
 Pro Val His Pro Asp Val Thr Met Lys Pro Leu Pro Phe Tyr Glu Val
 115 120 125
 Tyr Gly Glu Leu Ile Arg Pro Thr Thr Leu Ala Ser Thr Ser Ser Gln
 130 135 140
 Arg Phe Glu Glu Ala His Phe Thr Phe Ala Leu Thr Pro Gln Gln Val
 145 150 155 160
 Gln Gln Ile Leu Thr Ser Arg Glu Val Leu Pro Gly Ala Lys Cys Asp
 165 170 175
 Tyr Thr Ile Gln Val Gln Leu Arg Phe Cys Leu Cys Glu Thr Ser Cys
 180 185 190
 Pro Gln Glu Asp Tyr Phe Pro Pro Asn Leu Phe Val Lys Val Asn Gly
 195 200 205
 Lys Leu Cys Pro Leu Pro Gly Tyr Leu Pro Pro Thr Lys Asn Gly Ala
 210 215 220
 Glu Pro Lys Arg Pro Ser Arg Pro Ile Asn Ile Thr Pro Leu Ala Arg


```

225          230          235          240
Leu Ser Ala Thr Val Pro Asn Thr Ile Val Val Asn Trp Ser Ser Glu
          245          250          255
Phe Gly Arg Asn Tyr Ser Leu Ser Val Tyr Leu Val Arg Gln Leu Thr
          260          265          270
Ala Gly Thr Leu Leu Gln Lys Leu Arg Ala Lys Gly Ile Arg Asn Pro
          275          280          285
Asp His Ser Arg Ala Leu Ile Lys Glu Lys Leu Thr Ala Asp Pro Asp
          290          295          300
Ser Glu Val Ala Thr Thr Ser Leu Arg Val Ser Leu Met Cys Pro Leu
          305          310          315          320
Gly Lys Met Arg Leu Thr Val Pro Cys Arg Ala Leu Thr Cys Ala His
          325          330          335
Leu Gln Ser Phe Asp Ala Ala Leu Tyr Leu Gln Met Asn Glu Lys Lys
          340          345          350
Pro Thr Trp Thr Cys Pro Val Cys Asp Lys Lys Ala Pro Tyr Glu Ser
          355          360          365
Leu Ile Ile Asp Gly Leu Phe Met Glu Ile Leu Ser Ser Cys Ser Asp
          370          375          380
Cys Asp Glu Ile Gln Phe Met Glu Asp Gly Ser Trp Cys Pro Met Lys
          385          390          395          400
Pro Lys Lys Glu Ala Ser Glu Val Cys Pro Pro Gly Tyr Gly Leu
          405          410          415
Asp Gly Leu Gln Tyr Ser Pro Val Gln Gly Gly Asp Pro Ser Glu Asn
          420          425          430
Lys Lys Lys Val Glu Val Ile Asp Leu Thr Ile Glu Ser Ser Ser Asp
          435          440          445
Glu Glu Asp Leu Pro Pro Thr Lys Lys His Cys Ser Val Thr Ser Ala
          450          455          460
Ala Ile Pro Ala Leu Pro Gly Ser Lys Gly Val Leu Thr Ser Gly His
          465          470          475          480
Gln Pro Ser Ser Val Leu Arg Ser Pro Ala Met Gly Thr Leu Gly Gly
          485          490          495
Asp Phe Leu Ser Ser Leu Pro Leu His Glu Tyr Pro Pro Ala Phe Pro
          500          505          510
Leu Gly Ala Asp Ile Gln Gly Leu Asp Leu Phe Ser Phe Leu Gln Thr
          515          520          525
Glu Ser Gln His Tyr Gly Pro Ser Val Ile Thr Ser Leu Asp Glu Gln
          530          535          540
Asp Ala Leu Gly His Phe Phe Gln Tyr Arg Gly Thr Pro Ser His Phe
          545          550          555          560
Leu Gly Pro Leu Ala Pro Thr Leu Gly Ser Ser His Cys Ser Ala Thr
          565          570          575
Pro Ala Pro Pro Pro Gly Arg Val Ser Ser Ile Val Ala Pro Gly Gly
          580          585          590
Ala Leu Arg Glu Gly His Gly Gly Pro Leu Pro Ser Gly Pro Ser Leu
          595          600          605
Thr Gly Cys Arg Ser Asp Ile Ile Ser Leu Asp
          610          615

```

```

<210> 3705
<211> 1737
<212> DNA
<213> Homo sapiens

```

<400> 3705
ttttggaggg aaaggatgca ctttcatgtt taacaaaata aattaaatat acggggcttc
60
agctcaaact ctacataaaa ttacagagat ctggggccac cagcacagtg ggggtggggg
120
tggtgtcttg cctggacggg gtgtggtcat cagcatggct gaaagaccag gcgggtcccg
180
ggccccagga gagaccacag tccctgcaac ccagtcttcc ttccatcatt attaatatta
240
tcttcatttc ttaaatataa ataccaaggc cccttctctg tgtcagggg agaatgcagt
300
ggggatgagc cactagccat gggctccagc ctctcaggct tggggctgct gtgccccaa
360
ccccagccca cagcagtagg ggactcctgg gcacccaagg caggtggcaa aaatagccgc
420
caaggccagg ggacagaggc ggggatggag gcggggactg aggcggggac agaggcgggc
480
agagttgggg gagtgacggt ggagcaggga aagtccctca tcaactatga gcctcacggc
540
acacgtactg caggcttcac ggcacaccct cccaaaagca cgtcagctcg cgtgtgtgcc
600
aggcagcata tctgcacctg tgtgtgcatg tgtgtccgga agtgtgtgcc caggcagcat
660
atctgtcatg gtgcgtgctg gtgtatccgg acagcaatct gcacgtgtgt gcatgtccag
720
acagcatatc tgtgcacatg tgtgtgtcca ggcaatatct gcacgtgtgt gagtgttgag
780
gcagcattat ctgtgtgtgt gtccaggagc atatctgcgt gcgtgtgtgt gtcnnggaca
840
gcatatctgt gcatgcgtgt gtgtgtccgg acagcagctc gcgtgtgtgt gtgactagac
900
agcatatctg cgtgtgtcca ggcagcatat ctgcgcctgt gcacgtgtgt ctggaagtgt
960
gtgtccggca gcatatctgc atgtgtgtgc gtgtccnaga cagcatatct gtgcacgcgt
1020
gtgtgtgtgt gtgtccaggc anatatccgt gcatgtgtgt gtcaaggcag cattatctgt
1080
gtgtccagga gcatatctgt gcacgtgtgt gtccggatac atatctgcac gtgtgtggtc
1140
cagacagcat atccgtgtgt gtgtgtgtgt nccaggcagc acatctgcgc atgggtgtgc
1200
gtgnntgtat gttcaggcag catgtccttg tatgttctgg catgtctctg tgcgtgtgcg
1260
tgcatctggg cagcttatct gtgtgccag gcggcatatc tgtgcatgtg cgtgtgtgcg
1320
tacgtgtgcc ttncaggag cagctgtgcg cgcagtgtgt tgcatatcat catccaggta
1380
tgtgtgtgtc tgtgtgtgtg gtgccagggg ctatgcctca cacacagact gcctggggtg
1440
ctggccatcc ctccctcgcca tgggtcccct gccttcgtct gcagctccgt cctccatcct
1500
cccagctcgc ctgtctggcc gggccccccg tgcccactgc agatacgggt ccgtctagca
1560

ctgatagtgg atgtgctggt ggaccttgcc ctccacgtgt gagtgtgtgt gagagtgtgt
 1620
 gtgtgtgtgt gtgtgtggat gtctgtgttag agtttgggggt acaacttagg gccagcaact
 1680
 gggcctgggc ccaataagtg ctgggggggc tgccggagac ccattgctct caccacag
 1737

<210> 3706
 <211> 191
 <212> PRT
 <213> Homo sapiens

<400> 3706
 Met Gly Ser Ser Leu Ser Gly Leu Gly Leu Leu Cys Pro Gln Pro Gln
 1 5 10 15
 Pro Thr Ala Val Gly Asp Ser Trp Ala Pro Lys Ala Gly Gly Lys Asn
 20 25 30
 Ser Arg Gln Gly Gln Gly Thr Glu Ala Gly Met Glu Ala Gly Thr Glu
 35 40 45
 Ala Gly Thr Glu Ala Gly Arg Val Gly Gly Val Thr Val Glu Gln Gly
 50 55 60
 Lys Ser Leu Ile Asn Tyr Glu Pro His Gly Thr Arg Thr Ala Gly Phe
 65 70 75 80
 Thr Ala His Pro Pro Lys Ser Thr Ser Val Cys Val Cys Xaa Arg Gln
 85 90 95
 His Ile Cys Thr Cys Val Cys Met Cys Val Arg Lys Cys Val Pro Arg
 100 105 110
 Gln His Ile Cys Met Cys Ala Cys Val Cys Ile Arg Thr Ala Ile Cys
 115 120 125
 Thr Cys Val His Val Gln Thr Ala Tyr Leu Cys Thr Cys Val Cys Pro
 130 135 140
 Gly Asn Ile Cys Thr Cys Val Ser Val Glu Ala Ala Leu Ser Val Cys
 145 150 155 160
 Val Ser Arg Ser Ile Ser Ala Cys Val Cys Val Ser Xaa Thr Ala Tyr
 165 170 175
 Leu Cys Met Arg Val Cys Val Arg Thr Ala Val Cys Val Cys Val
 180 185 190

<210> 3707
 <211> 585
 <212> DNA
 <213> Homo sapiens

<400> 3707
 ntctgccaaag ggatgatatc tatgtgtcag atgttgagga cgacgggtgat gacacatctc
 60
 tggatagtga cctggatcca gaggagctgg caggagtcag gggacatcag ggtctaaggg
 120
 accaaaaagcg tatgcgactt actgaagtgc aagatgataa agaggaggtta ggatttcacc
 180
 tggcttcaac atgtgctagc tatcaatgtg atacattata tacaacaaaa ggaaagaaca
 240
 aaaatatggg gcatttcatt ggatgctgaa aatgcatttg ataacattca acttccttac
 300

atgataaaaa cccctaagaa actgggtata gaaggaatgt atctcaacgt aataaaagcc
 360
 gtatatgaca gaccancagt tagtatcatc ctgaatgggg aaaatctaca agaactacaa
 420
 acctttgggt taagatctgg aacacaacaa ggctgcccgc ttccaccaca gttactgaac
 480
 atagtactat aagtcctagc taggcgaatc agaggagaaa taagggggcat gcaaattggg
 540
 aaggaagaag tcaaattgtc cttatttaca gatgataaga tcttta
 585

<210> 3708
 <211> 106
 <212> PRT
 <213> Homo sapiens

<400> 3708
 Asp Phe Thr Trp Leu Gln His Val Leu Ala Ile Asn Val Ile His Tyr
 1 5 10 15
 Ile Gln Gln Lys Glu Arg Thr Lys Ile Trp Gly Ile Ser Leu Asp Ala
 20 25 30
 Glu Asn Ala Phe Asp Asn Ile Gln Leu Pro Tyr Met Ile Lys Thr Leu
 35 40 45
 Lys Lys Leu Gly Ile Glu Gly Met Tyr Leu Asn Val Ile Lys Ala Val
 50 55 60
 Tyr Asp Arg Pro Xaa Val Ser Ile Ile Leu Asn Gly Glu Asn Leu Gln
 65 70 75 80
 Glu Leu Gln Thr Phe Gly Leu Arg Ser Gly Thr Gln Gln Gly Cys Pro
 85 90 95
 Leu Ser Pro Gln Leu Leu Asn Ile Val Leu
 100 105

<210> 3709
 <211> 3768
 <212> DNA
 <213> Homo sapiens

<400> 3709
 nnaccgggtcc cctaccccc tcccgccctgg ccgccccggc ccgcccgtgac ccacggccgc
 60
 ctccggagcc cgacgcgggc atatacttct cttgtcttgg ttggatgcac aaatctgtgt
 120
 gcagtgtttt ttgccgcttg cctagacgat cacttggttt ctctgaggat gtctggttct
 180
 cgtaaagagt ttgatgtgaa acagattttg aaaatcagat ggaggtggtt tggatcatcaa
 240
 gcatcatctc ctaattctac agttgacagc cagcaggag aattttggaa ccgaggacag
 300
 actggagcaa acggtgggag aaagttttta gatccatgta gcctacaatt gcctttggct
 360
 tcaattggtt accgaaggtc cagccaactg gattttcaga attcaccttc ttggccaatg
 420
 gcatccacct ctgaagtccc tgcatttgag ttacagcag aagattgtgg cgggtgcacat
 480

tggctggata gaccagaagt ggatgatggc actagtgaag aagaaatga atctgattcc
540
agttcatgca ggacttccaa tagtagtcag acattatcat cctgtcatat tatggagcca
600
tgtacatcag atgaattttt ccaagccctt aatcatgccg agcaaacatt taaaaaatg
660
gaaaactatt tgagacataa acagttgtgt gatgtaattt tagtcgctgg tgatcgcgaga
720
attccagctc acagattggg gctctcctct gtctcagact attttctgct catgtttact
780
aatgatgtca gagaagcaag ataagaagac ataaaaatgg aaggtgtaga accaaattca
840
tcgtggctct tgatccaata tgcttataca ggccgccttg aattaaaaga agataatatt
900
gagtgcctgt tatctacagc ttgccttctt cagctttcac aggtgtaga agcatgttgt
960
aagtttttaa tgaaacagct tcatccatcc cactcttgg gaattctttc ttttgctgat
1020
gcccaagggt gtacagattt gcataaagtg gctcacaatt atactatgga gcatttcatg
1080
gaagtaatca gaaccaggga atttgtatta ttaccagcca gcgaaattgc aaagctcttg
1140
gctagtgtat acatgaacat tcctaagag gagacaatat tgaatgcact tcttacttgg
1200
gtccgtcatg atttggaaca gagacggaaa gatctaagta aacttttggc ttatattagg
1260
ctacctcttc ttgcaccaca gttcctggca gacatggaaa ataatgtact ttttcgggat
1320
gatatagaat gtcagaaact cattatggaa gcaatgaagt accatttatt accagagaga
1380
cgacctatgt tacaaggtcc tcggacaaaa cctaggaagt caactgttgg tacattattt
1440
gcagttgggg gaatggatc aacaaaagga gcaacaagca ttgaaaagta tgatctccgt
1500
acaaatatgt ggactccagt agcaaatatg aatgggagga ggctacagt cggtgttgca
1560
gtgctagatg acaaactgta tgtggttggg ggaagagatg gactgaagac tttgaatact
1620
gtagagtgtc acaaccccaa acaaaaaact tggagtgtga tgccacctat gtccacacat
1680
agacatggcc ttggtgtggc tgtactggaa ggtcccatgt atgccgtagg aggacatgat
1740
ggctggagct atctgaacac agtggaaaaga tgggaccctc aggtctcgca gtggaatttt
1800
gttgccacta tgtctacccc taggagtaca gtaggtgtgg cagtactaag tggaaaactt
1860
tatgcagttg gtggtcgtga tggagttctt tgtctcaaat cagtagaatg ttttgatcct
1920
catactaata agtggacact gtgtgcacag atgtcaaaaa ggagaggtgg cgtaggagtg
1980
acgacctgga atggactgct gtatgtctata ggggggcacg atgctcccg atccaacttg
2040
acttccagac tctcagactg tgtggaaaaga tatgatccca aaacagacat gtggactgca
2100

gtagcatcca tgagcatcag cagagatgca gtgggggtct gtttacttgg tgataagtta
2160
tatgctgttg ggggggtatga tggacaggca taccttaata ccgtggaggc ttatgatccc
2220
cagacaaatg agtggaccca ggtattttca catacttttg aggacagcaa agatcacctg
2280
gtggccatca agcagaccat ctggaggcaa aactccttat ctgaggaatt cagaagtcac
2340
tagactgecc tattatctaa agccggcatc ttgtactagg cttctttacc aaaaatgtat
2400
ttaataaaac atttccaacc tgtgaaaaaa aaaaaaaaaa attttttttt ttttgcttca
2460
aagagctttt ctcagagcag ggattttatt tcattacatg caacatggac aaacactggt
2520
ctggttttca tgacaatttg aattcaaagt aatatgtttt tctaaaattc agtgtattta
2580
tttggccata tggatgtccc ttgtgttctt ggtcacatat taaagaaact ggcactttgg
2640
ctgcaagaac aaataaaaaa tatcataaat ccaactgggc ttgtatttgg gtctaggtta
2700
ataactaaag aaccattcag caataatggc ttgaacatt tatatatcct atgaaaccgc
2760
aattagttaa gaggctgctg attctaataa ctatgacacc agcaagggag tgaggggaga
2820
aatgttaact ctggatgcc aattcagagc aaagtatcta ttatctcctt ctcacttttg
2880
cagtatctat aataaaagt gtggggggag aattatatga ataagttaa ataaaagtgc
2940
atacagaact gagaaatatt ttcattggaat ttgccactta gttcttaaaa ttcttataag
3000
gaaaataacc atttacaaca aaagactagt tacactgttg ctgtttagaa catgagagca
3060
aatgagtaa caatcaaatt ctctggttta aacttaatta tcttaaaaca tgttattctg
3120
taagttgaca tctatgcctt gaaaattcaa ggcagaaagt aaaatcattt agaaagccag
3180
aaattccatc aatacatcta gacagatggt tgcttgtagt ttttgggtatc caaaaccttt
3240
tttccacaca tcgcacagat gccttttttg taggcacagc cctggcagta atgagaacct
3300
ggttgggtga cagaactttt acaaattcta caagtggaga acttattctt tccatatgga
3360
tcaaatcttg ctttttttga agtcaaagct ttattttcat tcagctttct tccaccactt
3420
tttgtggtat tcctagcacc atctttccat gtatctggag tgataacagt accaagtttc
3480
ttttcacatt tttgcacac catccttccc caccacacct ttttctccc gatctgaacc
3540
cctgttgact aatcttcctt gggtttgtgt aggtctgcag gaaggaaggc tgaanaagcg
3600
gacgaagatt ttgacttaag tgggactttg tgatttaatt ttttctttt ttaagtggg
3660
gaggaagggg aagctagatg gactaggaga gacttgattt tgggtgctaaa gttccccagt
3720

tcatatgtga catcttttta aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa
3768

<210> 3710
<211> 70
<212> PRT
<213> Homo sapiens

<400> 3710
Met Glu Pro Cys Thr Ser Asp Glu Phe Phe Gln Ala Leu Asn His Ala
1 5 10 15
Glu Gln Thr Phe Lys Lys Met Glu Asn Tyr Leu Arg His Lys Gln Leu
20 25 30
Cys Asp Val Ile Leu Val Ala Gly Asp Arg Arg Ile Pro Ala His Arg
35 40 45
Leu Val Leu Ser Ser Val Ser Asp Tyr Phe Ala Ala Met Phe Thr Asn
50 55 60
Asp Val Arg Glu Ala Arg
65 70

<210> 3711
<211> 1366
<212> DNA
<213> Homo sapiens

<400> 3711
nctcactttt ctgacacgca ggcgatcggt cttgtggaga accagagtga ctggtacctg
60
ggcaacctct ggaagaacca caggccctgg cctgccttgg gccggggatt taacacagg
120
gtgatcctgc tgcggctgga ccggctccgg caggctggct gggagcagat gtggaggctg
180
acagccaggc gggagctcct tagcctgcct gccgcctcac tggctgacca ggacatcttc
240
aacgctgtga tcaaggagca cccggggcta gtgcagcgtc tgccttgtgt ctggaatgtg
300
cagctgtcag atcacacact ggccgagcgc tgctactctg aggcgtctga cctcaaggts
360
atccactgga actcacaaa gaagcttcgg gtgaagaaca agcatgtgga attcttccgc
420
aatttctacc tgaccttctt ggagtacgat gggaacctgc tgcggagaga gctctttgtg
480
tgccccagcc agccccacc tgggtgctgag cagttgcagc aggccttggc acaactggac
540
gaggaagacc cctgcttga gttccggcag cagcagctca ctgtgcaccg tgtgcatgct
600
actttcctgc cccatgaacc gccaccccc cggcctcacg atgtcacctt tgtggcccag
660
ctgtccatgg accggctgca gatgttgga gccctgtgca ggcaactggc tggccccatg
720
agcctggcct tgtacctgac agacgcggaa gctcagcagt tcctgcattt cgtcgaggcc
780
tcaccagtgc ttgctgccc gacggacgtg gccaccatg tgggttaccc tgaggggccc
840

ctataccccc tcaaccagct tcgcaacgtg gccttggccc aggccctcac gccttacgtc
 900
 ttcctcagtg acattgactt cctgcctgcc tattctctct acgactacct cagggcctcc
 960
 attgagcagc tggggctggg cagccggcgc aaggcagcac tgggtgtgccc ggcatttgag
 1020
 accctgcgct accgcttcag ctcccccat tccaagggtg agctgttggc cttgctggat
 1080
 gcggggcactc tctacacctt caggtaggag aggctacttc tctgccact ccactcactt
 1140
 gcccacactg gccccacta cccacgagct cctagcctca gcctggtccc caccgacccc
 1200
 tgctgcacag gtaccacgat gcccggaggc cagcaccca cagactatgc cgtgtggcgg
 1260
 gagctcaggc cccgtaccgt gtgcaatggg cggccaacta tgaaccttac gtggtgtgac
 1320
 cagcagactg tccccgctat gatcctcgct ttgtgggctt cggctg
 1366

<210> 3712

<211> 368

<212> PRT

<213> Homo sapiens

<400> 3712

Xaa His Phe Ser Asp Thr Gln Ala Ile Gly Leu Val Glu Asn Gln Ser
 1 5 10 15
 Asp Trp Tyr Leu Gly Asn Leu Trp Lys Asn His Arg Pro Trp Pro Ala
 20 25 30
 Leu Gly Arg Gly Phe Asn Thr Gly Val Ile Leu Leu Arg Leu Asp Arg
 35 40 45
 Leu Arg Gln Ala Gly Trp Glu Gln Met Trp Arg Leu Thr Ala Arg Arg
 50 55 60
 Glu Leu Leu Ser Leu Pro Ala Ala Ser Leu Ala Asp Gln Asp Ile Phe
 65 70 75 80
 Asn Ala Val Ile Lys Glu His Pro Gly Leu Val Gln Arg Leu Pro Cys
 85 90 95
 Val Trp Asn Val Gln Leu Ser Asp His Thr Leu Ala Glu Arg Cys Tyr
 100 105 110
 Ser Glu Ala Ser Asp Leu Lys Val Ile His Trp Asn Ser Pro Lys Lys
 115 120 125
 Leu Arg Val Lys Asn Lys His Val Glu Phe Phe Arg Asn Phe Tyr Leu
 130 135 140
 Thr Phe Leu Glu Tyr Asp Gly Asn Leu Leu Arg Arg Glu Leu Phe Val
 145 150 155 160
 Cys Pro Ser Gln Pro Pro Pro Gly Ala Glu Gln Leu Gln Gln Ala Leu
 165 170 175
 Ala Gln Leu Asp Glu Glu Asp Pro Cys Phe Glu Phe Arg Gln Gln Gln
 180 185 190
 Leu Thr Val His Arg Val His Val Thr Phe Leu Pro His Glu Pro Pro
 195 200 205
 Pro Pro Arg Pro His Asp Val Thr Leu Val Ala Gln Leu Ser Met Asp
 210 215 220
 Arg Leu Gln Met Leu Glu Ala Leu Cys Arg His Trp Pro Gly Pro Met


```

225          230          235          240
Ser Leu Ala Leu Tyr Leu Thr Asp Ala Glu Ala Gln Gln Phe Leu His
          245          250          255
Phe Val Glu Ala Ser Pro Val Leu Ala Ala Arg Gln Asp Val Ala Tyr
          260          265          270
His Val Val Tyr Arg Glu Gly Pro Leu Tyr Pro Val Asn Gln Leu Arg
          275          280          285
Asn Val Ala Leu Ala Gln Ala Leu Thr Pro Tyr Val Phe Leu Ser Asp
          290          295          300
Ile Asp Phe Leu Pro Ala Tyr Ser Leu Tyr Asp Tyr Leu Arg Ala Ser
305          310          315          320
Ile Glu Gln Leu Gly Leu Gly Ser Arg Arg Lys Ala Ala Leu Val Val
          325          330          335
Pro Ala Phe Glu Thr Leu Arg Tyr Arg Phe Ser Phe Pro His Ser Lys
          340          345          350
Val Glu Leu Leu Ala Leu Leu Asp Ala Gly Thr Leu Tyr Thr Phe Arg
          355          360          365

```

<210> 3713

<211> 1719

<212> DNA

<213> Homo sapiens

<400> 3713

```

ccatgggaag tagaacgcgc gctcgcatgc ctgccccccc gccagcctgc cgggtacggc
60
cttttccgcc ggggttcca ggtcaaagaa ttcgcctttg ccgctaccgc tttcttacc
120
tccgcacccg ttaagttctc cggtcgggcg gcagtctctg aacacttagc cgcgccatcc
180
ggggtcacac cgcttgaag gaggtgacgg gggcggcgcg gggcgcgac actccccgt
240
gagagtcgcc ctgccatgga ctcggaatat tacagcgcg accagtcaga tgatggtggt
300
gctacccccg tacaggatga acgggattca gggtcagacg gtgaggatga tgtaaatgag
360
caacactccg gatcagacac tggagtgta gaacgtcatt cagagaatga aactagtgtat
420
cgagaagatg gcccccccaa aggacatcat gtgacagact ctgagaacga tgagccctta
480
aatcttaatg ctagtgactc tgaaagttag gagcttcaca ggcaaaagga cagcgactct
540
gaatctgagg aacgtgcaga gcctcctgca agcgattctg aaaatgagga tgtcaatcag
600
catgggagcg actctgagag tgaagagacc aggaaattac ctggtagtga ctctgaaat
660
gaggaacttc ttaatgggca tgcaagtac tcagaaaacg aagatgttgg gaagcatccc
720
gccagtgatt ctgagattga ggagctccag aagagtcctg ctagtgactc tgaaacagaa
780
gatgctctaa aacctcaaat cagtgactct gagagttagg aacccccaa gcaccaagcc
840
agtgactccg aaaatgagga gcctcccaa cctcgaatga gtgattctga aagtgaggag
900

```

cttcctaacc ctcagggtcag tgattcagaa agtgaggaac ccccaaggca ccaggccagt
 960
 gactctgaaa atgaggagct tcccaaacct cgtatcagtg actcagaaag tgaggaccct
 1020
 ccgaggcacc aggccagtga ctcagaaaat gaagagcttc ccaaaccctg aatcagtgat
 1080
 tcggaaagtg aggatcccc aaggaaccag gccagtgatt cggaaaatga ggagctaccc
 1140
 aaaccccgag tcagtgaactc tgagagtga gggcctcaga aggggcctgc cagtgaactca
 1200
 gaaactgagg atgcgtccag acacaaacag aagccagagt cagatgatga cagcgacagg
 1260
 gagaataagg gagaggatac agaaatgcag aatgactcct tccattcaga cagccatatg
 1320
 gacagaaaaa agtttcacag ttctgatagt gaggaggaag aacacaaaaa gcaaaaaatg
 1380
 gacagtgatg aagatgaaaa agagggtgag gaggagaaag tagcgaagag aaaagctgct
 1440
 gtgctttctg atagtgaaga tgaagagaaa gcatcagcaa agaagagtcg tgtgtctct
 1500
 gatgcagatg actctgacag tgatgctgta tcagacaagt caggcaaaag agagaagacc
 1560
 atagcatctg acagtgaaga agaagctggg aaagaattgt ctgataagaa aaatgaagag
 1620
 aaggatctgt ttgggagtga cagtgaagca ggcaatgaag aagaaaatct tattgcagac
 1680
 atatttgag aatctggtga tgaagaggaa gaagaattc
 1719

<210> 3714

<211> 488

<212> PRT

<213> Homo sapiens

<400> 3714

Met Asp Ser Glu Tyr Tyr Ser Gly Asp Gln Ser Asp Asp Gly Gly Ala
 1 5 10 15
 Thr Pro Val Gln Asp Glu Arg Asp Ser Gly Ser Asp Gly Glu Asp Asp
 20 25 30
 Val Asn Glu Gln His Ser Gly Ser Asp Thr Gly Ser Val Glu Arg His
 35 40 45
 Ser Glu Asn Glu Thr Ser Asp Arg Glu Asp Gly Pro Pro Lys Gly His
 50 55 60
 His Val Thr Asp Ser Glu Asn Asp Glu Pro Leu Asn Leu Asn Ala Ser
 65 70 75 80
 Asp Ser Glu Ser Glu Glu Leu His Arg Gln Lys Asp Ser Asp Ser Glu
 85 90 95
 Ser Glu Glu Arg Ala Glu Pro Pro Ala Ser Asp Ser Glu Asn Glu Asp
 100 105 110
 Val Asn Gln His Gly Ser Asp Ser Glu Ser Glu Glu Thr Arg Lys Leu
 115 120 125
 Pro Gly Ser Asp Ser Glu Asn Glu Glu Leu Leu Asn Gly His Ala Ser
 130 135 140
 Asp Ser Glu Asn Glu Asp Val Gly Lys His Pro Ala Ser Asp Ser Glu

145 150 155 160
 Ile Glu Glu Leu Gln Lys Ser Pro Ala Ser Asp Ser Glu Thr Glu Asp
 165 170 175
 Ala Leu Lys Pro Gln Ile Ser Asp Ser Glu Ser Glu Glu Pro Pro Arg
 180 185 190
 His Gln Ala Ser Asp Ser Glu Asn Glu Glu Pro Pro Lys Pro Arg Met
 195 200 205
 Ser Asp Ser Glu Ser Glu Glu Leu Pro Lys Pro Gln Val Ser Asp Ser
 210 215 220
 Glu Ser Glu Glu Pro Pro Arg His Gln Ala Ser Asp Ser Glu Asn Glu
 225 230 235 240
 Glu Leu Pro Lys Pro Arg Ile Ser Asp Ser Glu Ser Glu Asp Pro Pro
 245 250 255
 Arg His Gln Ala Ser Asp Ser Glu Asn Glu Glu Leu Pro Lys Pro Arg
 260 265 270
 Ile Ser Asp Ser Glu Ser Glu Asp Pro Pro Arg Asn Gln Ala Ser Asp
 275 280 285
 Ser Glu Asn Glu Glu Leu Pro Lys Pro Arg Val Ser Asp Ser Glu Ser
 290 295 300
 Glu Gly Pro Gln Lys Gly Pro Ala Ser Asp Ser Glu Thr Glu Asp Ala
 305 310 315 320
 Ser Arg His Lys Gln Lys Pro Glu Ser Asp Asp Ser Asp Arg Glu
 325 330 335
 Asn Lys Gly Glu Asp Thr Glu Met Gln Asn Asp Ser Phe His Ser Asp
 340 345 350
 Ser His Met Asp Arg Lys Lys Phe His Ser Ser Asp Ser Glu Glu Glu
 355 360 365
 Glu His Lys Lys Gln Lys Met Asp Ser Asp Glu Asp Glu Lys Glu Gly
 370 375 380
 Glu Glu Glu Lys Val Ala Lys Arg Lys Ala Ala Val Leu Ser Asp Ser
 385 390 395 400
 Glu Asp Glu Glu Lys Ala Ser Ala Lys Lys Ser Arg Val Val Ser Asp
 405 410 415
 Ala Asp Asp Ser Asp Ser Asp Ala Val Ser Asp Lys Ser Gly Lys Arg
 420 425 430
 Glu Lys Thr Ile Ala Ser Asp Ser Glu Glu Glu Ala Gly Lys Glu Leu
 435 440 445
 Ser Asp Lys Lys Asn Glu Glu Lys Asp Leu Phe Gly Ser Asp Ser Glu
 450 455 460
 Ser Gly Asn Glu Glu Glu Asn Leu Ile Ala Asp Ile Phe Gly Glu Ser
 465 470 475 480
 Gly Asp Glu Glu Glu Glu Phe
 485

<210> 3715
 <211> 288
 <212> DNA
 <213> Homo sapiens

<400> 3715
 ngccgcggcg cgggcccccgc ggggggttaga ggtcaccatg ctgaggggtcg cgtaaaggac
 60
 accacatccc tggagggtcg aattattgcc ttgtctggca agatccgcag ttatgaagaa
 120

cacttggaga aacatcgaaa ggacaaagcc cacaaacgct atctgctaata gagcattgac
 180
 cagaggaaaa agatgctcaa aaacctccgt aacaccaact atgatgtctt tgagaagata
 240
 tgctgggggc tgggaattga gtacaccttc cccctctgt attaccgn
 288

<210> 3716
 <211> 96
 <212> PRT
 <213> Homo sapiens

<400> 3716
 Xaa Arg Gly Ala Gly Pro Ala Gly Val Arg Gly His His Ala Glu Gly
 1 5 10 15
 Arg Val Lys Asp Thr Thr Ser Leu Glu Ala Arg Ile Ile Ala Leu Ser
 20 25 30
 Gly Lys Ile Arg Ser Tyr Glu Glu His Leu Glu Lys His Arg Lys Asp
 35 40 45
 Lys Ala His Lys Arg Tyr Leu Leu Met Ser Ile Asp Gln Arg Lys Lys
 50 55 60
 Met Leu Lys Asn Leu Arg Asn Thr Asn Tyr Asp Val Phe Glu Lys Ile
 65 70 75 80
 Cys Trp Gly Leu Gly Ile Glu Tyr Thr Phe Pro Pro Leu Tyr Tyr Arg
 85 90 95

<210> 3717
 <211> 1545
 <212> DNA
 <213> Homo sapiens

<400> 3717
 ntgatcagga cagatgtgtc attattatgt gagagtgtgc atttacaagg gaaatgatta
 60
 ttctggccca taaattatct taaaagctat ttattcgctt atgaacattt ttagagggga
 120
 taacatgggc cctcacaaca tcccaggagg acaaaaacat agcagattta ataactaat
 180
 ttagcaagat aaaagtgtgg atttttgtga aaggtacaca tttcttttaa caagtaaaag
 240
 ttccagatca ttattgatat ttacttattt taaagtaaag gcattacaca ctcaacattt
 300
 ggccctgatct gattttttaa cttcatccct aggattgata ttgctgatga tattattaat
 360
 gccagtgaag gtaacagaga ctgttcaaaa cctgtggcta gcactaattt agacaatgaa
 420
 gctatgcagc aagatttgtt atttgagaat gaagaaaata cccagtctgt aggtatattg
 480
 ttagagccat gcagtgaccg tggatgtagt gaagatggct gtcttgagag ggaagaatat
 540
 ttgttatttg acagtataa attgtcacac ttgattctgg attctagtag caagatatgt
 600
 gatttgaatg ccaacactga atcagaagta ccaggaggtc agagtgttgg tgttcaaggg
 660

gaagcagcgt gtgtcagtat tccacattta gatctgaaga atgtttctga tgggtataaa
 720
 tgggaagagc ctttccctgc ttttaagtct tggcaggagg actctgagtc tggagaagct
 780
 cagctgtctc cacaagctgg aagaatgaat catcacccct tgggaagagga ctgtcctcca
 840
 gtattatcac accgcagttt agattttggg caaagccagc gtttcctaca tgatccagaa
 900
 aagttggatt cctcatctaa agcactgtct tttactagaa ttcgaagatc atcctttagt
 960
 tcaaaagatg aaaagagaga ggacagaaca ccttatcagc tggtaagaa acttcagaag
 1020
 aaaatcagac aatttgagga acagtttgaa agggaaagaa atagcaagcc ctctacagt
 1080
 gatattgctg ccaatccaaa ggtattaaaa tggatgacag agcttacaaa actgcggaag
 1140
 caaattaaag atgcaaaaa caaaaattct gatggagaat ttgtacctca gacacgtcca
 1200
 cgtagtaaca cacttccaaa aagctttggc tcttctctag accatgaaga tgaagagaat
 1260
 gaagatgaac ccaaggtcat tcagaaggag aaaaaacat ctaagaagc aaccttgaa
 1320
 cttattctta aaagactgaa agaaaaacgt attgagaggt gtcttcaga agatatcaag
 1380
 aaaatgacca aagatcattt ggtagaagag aaagcttctc ttcagaaaag tcttctttac
 1440
 tatgaaagtc aacatggaag gccggtgacc aaggaagaaa ggcacattgt taaacctctc
 1500
 tatgatagat acaggcttgt aaaacaaatg ctgacaagag ctacg
 1545

<210> 3718

<211> 374

<212> PRT

<213> Homo sapiens

<400> 3718

Met Gln Gln Asp Cys Val Phe Glu Asn Glu Glu Asn Thr Gln Ser Val
 1 5 10 15
 Gly Ile Leu Leu Glu Pro Cys Ser Asp Arg Gly Asp Ser Glu Asp Gly
 20 25 30
 Cys Leu Glu Arg Glu Glu Tyr Leu Leu Phe Asp Ser Asp Lys Leu Ser
 35 40 45
 His Leu Ile Leu Asp Ser Ser Ser Lys Ile Cys Asp Leu Asn Ala Asn
 50 55 60
 Thr Glu Ser Glu Val Pro Gly Gly Gln Ser Val Gly Val Gln Gly Glu
 65 70 75 80
 Ala Ala Cys Val Ser Ile Pro His Leu Asp Leu Lys Asn Val Ser Asp
 85 90 95
 Gly Asp Lys Trp Glu Glu Pro Phe Pro Ala Phe Lys Ser Trp Gln Glu
 100 105 110
 Asp Ser Glu Ser Gly Glu Ala Gln Leu Ser Pro Gln Ala Gly Arg Met
 115 120 125
 Asn His His Pro Leu Glu Glu Asp Cys Pro Pro Val Leu Ser His Arg

```

      130      135      140
Ser Leu Asp Phe Gly Gln Ser Gln Arg Phe Leu His Asp Pro Glu Lys
145      150      155      160
Leu Asp Ser Ser Ser Lys Ala Leu Ser Phe Thr Arg Ile Arg Arg Ser
      165      170      175
Ser Phe Ser Ser Lys Asp Glu Lys Arg Glu Asp Arg Thr Pro Tyr Gln
      180      185      190
Leu Val Lys Lys Leu Gln Lys Lys Ile Arg Gln Phe Glu Glu Gln Phe
      195      200      205
Glu Arg Glu Arg Asn Ser Lys Pro Ser Tyr Ser Asp Ile Ala Ala Asn
      210      215      220
Pro Lys Val Leu Lys Trp Met Thr Glu Leu Thr Lys Leu Arg Lys Gln
      225      230      235      240
Ile Lys Asp Ala Lys His Lys Asn Ser Asp Gly Glu Phe Val Pro Gln
      245      250      255
Thr Arg Pro Arg Ser Asn Thr Leu Pro Lys Ser Phe Gly Ser Ser Leu
      260      265      270
Asp His Glu Asp Glu Glu Asn Glu Asp Glu Pro Lys Val Ile Gln Lys
      275      280      285
Glu Lys Lys Pro Ser Lys Glu Ala Thr Leu Glu Leu Ile Leu Lys Arg
      290      295      300
Leu Lys Glu Lys Arg Ile Glu Arg Cys Leu Pro Glu Asp Ile Lys Lys
      305      310      315      320
Met Thr Lys Asp His Leu Val Glu Glu Lys Ala Ser Leu Gln Lys Ser
      325      330      335
Leu Leu Tyr Tyr Glu Ser Gln His Gly Arg Pro Val Thr Lys Glu Glu
      340      345      350
Arg His Ile Val Lys Pro Leu Tyr Asp Arg Tyr Arg Leu Val Lys Gln
      355      360      365
Met Leu Thr Arg Ala Ser
      370

```

<210> 3719

<211> 422

<212> DNA

<213> Homo sapiens

<400> 3719

```

nnncatctgc gctgagtgagg agtataataa aatacctcnn cactggggac tgggatggga
60
ttttgggctt ggctgctccg tggtttgatc ttctcgcggt tgcttgggtc ctacatgggt
120
gggcaaccag aaccccggtg gggaaagaat aacccaaaaa agtttgagtg caacagtaga
180
cagcccggtt gcaaaaatgt gtgttttgat gacttccttc ccatttccca agtcagactt
240
tgggccttac aactgataat ggtctccaca ctttcacttc tgggtggttt acatgtagcc
300
tatcatgagg gtagagagaa aaggcacaga aagaaactct atgtcagccc aggtacaatg
360
gatggggggc tatggtacgc ttatcttate agcctcattg ttaaaactgg ttttgaaacn
420
nn
422

```

<210> 3720
 <211> 122
 <212> PRT
 <213> Homo sapiens

<400> 3720
 Met Gly Phe Trp Ala Trp Leu Leu Arg Gly Leu Ile Phe Arg Gly Leu
 1 5 10 15
 Pro Gly Ser Tyr Met Gly Gly Gln Pro Glu Pro Arg Val Gly Lys Asn
 20 25 30
 Asn Gln Lys Lys Phe Glu Cys Asn Ser Arg Gln Pro Gly Cys Lys Asn
 35 40 45
 Val Cys Phe Asp Asp Phe Phe Pro Ile Ser Gln Val Arg Leu Trp Ala
 50 55 60
 Leu Gln Leu Ile Met Val Ser Thr Pro Ser Leu Leu Val Val Leu His
 65 70 75 80
 Val Ala Tyr His Glu Gly Arg Glu Lys Arg His Arg Lys Lys Leu Tyr
 85 90 95
 Val Ser Pro Gly Thr Met Asp Gly Gly Leu Trp Tyr Ala Tyr Leu Ile
 100 105 110
 Ser Leu Ile Val Lys Thr Gly Phe Glu Thr
 115 120

<210> 3721
 <211> 4728
 <212> DNA
 <213> Homo sapiens

<400> 3721
 agcgagaagg agaaggaaga gttggagcgg ctgcagaaaag aggaggagga gaggaagaag
 60
 aggctgcagc tgtatgtgtt cgtgatgcgc tgcctgcctt acccctttta tgccaagcag
 120
 cccaccgaca tggctcgcgc gcagcagaag atcagcaaac agcagctgca gacagtcaag
 180
 gaccggtttc aggcctttcct caatggggaa acccagatca tggttgacga agccttcctg
 240
 aacgctgtgc agagttacta tgaggtgttc ctgaagagcg accgtgtggc ccgcatggtt
 300
 cagagtggag gctgttcgc caacgactcc cgggaggtct tcaagaagca cattgagaag
 360
 agagtgcgca gcctgcctga gattgacggc ctacagcaagg agactgtgct gagctcctgg
 420
 atggccaaat ttgatgcat ctaccgtgga gaagaggacc cgcggaagca gcaggcccg
 480
 atgacagcca gcgcagcctc cgagctgatt ctgagcaagg agcaactcta tgagatgttc
 540
 cagaacattc ttgggatcaa gaagttcgaa catcagctcc ttacaatgc ctgccagctg
 600
 gacaatccag atgagcaagc agcccagatc agacgagagc tggatggacg tctacaaatg
 660
 gcagaccaa tagccaggga acgcaaatcc cccaagtgtg tatccaaaga aatggaaaac
 720

atgtacattg aggagctgaa gtcattctgtc aacctgctca tggccaactt ggagagcatg
780
ccggtatcca aaggcgggga gttcaagctc cagaaactca aacgcagcca caatgcttcc
840
atcatcgaca tggcgagga gagtgagaac cagctctcca agtcagatgt cgtgctgtct
900
ttctcattgg aggtggtaat tatggaagtc caaggcctca aatctttggc tccaaatcgc
960
atcgtatatt gcacaatgga ggtggaagga ggagagaaac tacagactga tcaggccgag
1020
gcttctaaac caacctgggg caccaggggt gacttctcca caaccatgc actgccagct
1080
gtgaaggtga agctgttcac agagagcaca ggcgtcctgg cgttgaggga caaggagctt
1140
gggcggggtta ttctccatcc caccccaac agccccaac agtcagatgt gcacaaaatg
1200
acagctctcca aaaactgccc caaccaagat ctcaaatca aacttgtgt ccgaatggat
1260
aagcctcaaa acatgaagca ttctgggtat ttatgggcca tcggtaaaga tctctggaag
1320
agatggaaga aaaggttttt tgtattggtg caggtcagtc agtacacgtt tgccatgtgc
1380
agttatcggg agaagaaagc ggagcctcag gaacttctac aattggatgg ctacactgtg
1440
gattacaccg acccccagcc aggtttggag ggtggccgag ccttcttcaa tgcgtcaag
1500
gaggagagaca ccgtgatatt tgccagtgc gatgaacaag accgcatcct gtgggtccag
1560
gccatgtatc gggccacggg gcagtcacac aagcctgtgc ccccagccca agtccagaaa
1620
ctcaacgcca agggaggaaa tgtacctcag ctggatgccc ctatctctca attttctgga
1680
ctgaaggagc cagatagagc tcaaaaacat ggcatggatg aattttatctc ttccaacccc
1740
tgtaactttg accacgcttc cctctttgag atggtacaac gccttacttt ggatcacaga
1800
cttaatgatt cctattcttg cctgggctgg ttcatcctg gccaggtgtt tgtactagac
1860
gagtattgag cccgaaatgg agtccggggg tgtcaccgac atctctgcta cctcagagac
1920
ttgcttgaa cggcagaaaa tggcgccatg atcgacccca cccttcttca ctacagcttt
1980
gccttctgtg catcccatgt ccatgggaac aggcctgatg gaattggaac tgtgactgtt
2040
gaagaaaagg aacgttttga agaaatcaaa gagaggctcc gagttctgct agaaaatcag
2100
attacacatt ttaggtattg ctttccattt ggtcagactg aagggtcctt gaaagctact
2160
ctctcactct tggaaagggt ttgatgaaa gatattgtta cccagtgcc acaagaggag
2220
gtaaaaacag ttatccgtaa atgtctggaa caggctgctg tagtcaacta ttctcggtc
2280
tcagagtatg ccaaaatcga agagaatcaa aaggatgcag aaaatgtagg ccggttaatc
2340

actcctgcc aaaaagcttga agatacaata cgtcttgctg aactagtcac tgaagttctt
2400
cagcaaaatg aggagcacca cgcagagcca catgttgata aaggagaggc ctttgcgtgg
2460
tggtcagatt taatggtgga gcatgctggag acgttcctgt cactccttgc agtagacatg
2520
gatgcagcct tagaggtgca acctccagac acatgggaca gttttccact atttcagctg
2580
ctgaatgatt ttctccgtac tgactataat ttgtgcaatg gaaaatttca caaacacctg
2640
caagacctgt ttgccccact tgttgttaga tatgtggatc tgaatggatc ctcaattgca
2700
caatccattc acaggggctt tgagcgggag tcatgggaac cagtcaataa tgggtcaggc
2760
acctcagaag atctgttttg gaaacttgac gcccttcaga ccttcattcg ggacctgcac
2820
tggcctgaag aagagtttgg aaagcacctg gaacaacggc tgaagtgatg ggcaagtgc
2880
atgatcgaat cttgtgtcaa aagaaccagg attgcatttg aagttaagct gcaaaaaacc
2940
agtcgatcaa cagattttgc agtccacag tcaatatgca ccatgtttaa tgttatggtt
3000
gatgccaaag ctcaatcaac aaaactttgc agcatggaaa tgggccaaga gtttgctaaa
3060
atgtggcatc aataccattc aaaaatagac gaactaattg aagaaactgt taagaaatg
3120
ataacactct tggttgcaaa gttcgttact atcttggaag gagtgctggc aaaattatcc
3180
agatatgacg aagggaactt gttttcttct tttctgtcat ttaccgtgaa ggcagcttcc
3240
aaatatgtgg atgtacctaa acccgggatg gacgtggccg acgcctacgt gactttcgtc
3300
cgccattctc aggatgtcct gcgtgataag gtcaatgagg agatgtacat agaaaggtta
3360
tttgatcaat ggtacaacag ctccatgaac gtgatctgca cctgggtgac ggaccggatg
3420
gacttacagc ttcatattta tcagttgaaa acactaatta ggatggtaaa gaaaacctac
3480
agagatttcc gattgcaagg ggtcctggac tccaccttaa acagcaagac ctatgaaacg
3540
atccggaacc gtctcactgt ggaggaagcc acagcatcag tgagtgaagg tgggggactg
3600
cagggcatca gcatgaagga cagcgatgag gaagacgaag aagacgatta gaccatttgg
3660
tcctagagtc tgcctgggaca gagtcctgta atcagtgcac gtccttagtc tgttagttaa
3720
acccattagg aattttctgt caactaccat gcccatgaga tgtttatcaa tacaactgcc
3780
attttagcta tgtggtacca agattagcaa atgaccttca tatccactga tttcctgatg
3840
tccatgtcta tatgtttaca agcaatatgg agcaccattc tttaaatact gttcatggag
3900
aatacatagt ctaaccacta ggcgtgtccc tgttatcagc aaagatcaat gatgcttcat
3960

tcatgtacta tgtatgcatt ggtggtaaat ggatgtgagg gcaagtacat caagtacatt
 4020
 cactctgttt cacgtatgtg gatgccagtt aattaaatga gtacgtaaat aaattaatta
 4080
 aaacacatag atctgctttg tgtttttatt tttatttttt gaaaaacaaa aggcaagtct
 4140
 ccaacaatta acttttgatg ctttctgttc ccctaaaacc aaaaaatgaa ccccttgtgt
 4200
 cgttgtaaac ccaccccttc atttactcat ataattagcc aaaaaaaaaa ggatggctac
 4260
 ataccaatgg attgattctc ttaattgccg cggaaggagg gcgatcccat catgacttaa
 4320
 catcaagcgc gcagttcaaa actactgtct tctgtcaaag ttttctcttc ttaaatgtta
 4380
 ttttgctttt acgtctcaac tgtgtatgta aaaaaaacga atatttaaat tacaacctta
 4440
 gactaaaaat gtgtttataa taagatgtgg atatttctct cagtagattg taaccataat
 4500
 ttaaattatt ttgtccaca ctgtttttta tatctgtcat gtacattgca ttttgatctg
 4560
 taactgcaca accctggggg ttgctgcaga gctatttctt tccatgtaaa gtatgggac
 4620
 catcttgctt ttgccttata taaagcctac agttatggaa gtgtggaaaa ctgtggcttc
 4680
 tcaataaata ttcagatgtc ctaagaataa aaaaaaaaaa aaaaaaaa
 4728

<210> 3722

<211> 1216

<212> PRT

<213> Homo sapiens

<400> 3722

Ser Glu Lys Glu Lys Glu Glu Leu Glu Arg Leu Gln Lys Glu Glu Glu
 1 5 10 15
 Glu Arg Lys Lys Arg Leu Gln Leu Tyr Val Phe Val Met Arg Cys Ile
 20 25 30
 Ala Tyr Pro Phe Asn Ala Lys Gln Pro Thr Asp Met Ala Arg Arg Gln
 35 40 45
 Gln Lys Ile Ser Lys Gln Gln Leu Gln Thr Val Lys Asp Arg Phe Gln
 50 55 60
 Ala Phe Leu Asn Gly Glu Thr Gln Ile Met Ala Asp Glu Ala Phe Met
 65 70 75 80
 Asn Ala Val Gln Ser Tyr Tyr Glu Val Phe Leu Lys Ser Asp Arg Val
 85 90 95
 Ala Arg Met Val Gln Ser Gly Gly Cys Ser Ala Asn Asp Ser Arg Glu
 100 105 110
 Val Phe Lys Lys His Ile Glu Lys Arg Val Arg Ser Leu Pro Glu Ile
 115 120 125
 Asp Gly Leu Ser Lys Glu Thr Val Leu Ser Ser Trp Met Ala Lys Phe
 130 135 140
 Asp Ala Ile Tyr Arg Gly Glu Glu Asp Pro Arg Lys Gln Gln Ala Arg
 145 150 155 160
 Met Thr Ala Ser Ala Ala Ser Glu Leu Ile Leu Ser Lys Glu Gln Leu

```

165      170      175
Tyr Glu Met Phe Gln Asn Ile Leu Gly Ile Lys Lys Phe Glu His Gln
180      185      190
Leu Leu Tyr Asn Ala Cys Gln Leu Asp Asn Pro Asp Glu Gln Ala Ala
195      200      205
Gln Ile Arg Arg Glu Leu Asp Gly Arg Leu Gln Met Ala Asp Gln Ile
210      215      220
Ala Arg Glu Arg Lys Phe Pro Lys Phe Val Ser Lys Glu Met Glu Asn
225      230      235      240
Met Tyr Ile Glu Glu Leu Lys Ser Ser Val Asn Leu Leu Met Ala Asn
245      250      255
Leu Glu Ser Met Pro Val Ser Lys Gly Gly Glu Phe Lys Leu Gln Lys
260      265      270
Leu Lys Arg Ser His Asn Ala Ser Ile Ile Asp Met Gly Glu Glu Ser
275      280      285
Glu Asn Gln Leu Ser Lys Ser Asp Val Val Leu Ser Phe Ser Leu Glu
290      295      300
Val Val Ile Met Glu Val Gln Gly Leu Lys Ser Leu Ala Pro Asn Arg
305      310      315      320
Ile Val Tyr Cys Thr Met Glu Val Glu Gly Gly Glu Lys Leu Gln Thr
325      330      335
Asp Gln Ala Glu Ala Ser Lys Pro Thr Trp Gly Thr Gln Gly Asp Phe
340      345      350
Ser Thr Thr His Ala Leu Pro Ala Val Lys Val Lys Leu Phe Thr Glu
355      360      365
Ser Thr Gly Val Leu Ala Leu Glu Asp Lys Glu Leu Gly Arg Val Ile
370      375      380
Leu His Pro Thr Pro Asn Ser Pro Lys Gln Ser Glu Trp His Lys Met
385      390      395      400
Thr Val Ser Lys Asn Cys Pro Asn Gln Asp Leu Lys Ile Lys Leu Ala
405      410      415
Val Arg Met Asp Lys Pro Gln Asn Met Lys His Ser Gly Tyr Leu Trp
420      425      430
Ala Ile Gly Lys Asn Val Trp Lys Arg Trp Lys Lys Arg Phe Phe Val
435      440      445
Leu Val Gln Val Ser Gln Tyr Thr Phe Ala Met Cys Ser Tyr Arg Glu
450      455      460
Lys Lys Ala Glu Pro Gln Glu Leu Leu Gln Leu Asp Gly Tyr Thr Val
465      470      475      480
Asp Tyr Thr Asp Pro Gln Pro Gly Leu Glu Gly Gly Arg Ala Phe Phe
485      490      495
Asn Ala Val Lys Glu Gly Asp Thr Val Ile Phe Ala Ser Asp Asp Glu
500      505      510
Gln Asp Arg Ile Leu Trp Val Gln Ala Met Tyr Arg Ala Thr Gly Gln
515      520      525
Ser His Lys Pro Val Pro Pro Thr Gln Val Gln Lys Leu Asn Ala Lys
530      535      540
Gly Gly Asn Val Pro Gln Leu Asp Ala Pro Ile Ser Gln Phe Ser Gly
545      550      555      560
Leu Lys Asp Ala Asp Arg Ala Gln Lys His Gly Met Asp Glu Phe Ile
565      570      575
Ser Ser Asn Pro Cys Asn Phe Asp His Ala Ser Leu Phe Glu Met Val
580      585      590
Gln Arg Leu Thr Leu Asp His Arg Leu Asn Asp Ser Tyr Ser Cys Leu

```

```

      595              600              605
Gly Trp Phe Ser Pro Gly Gln Val Phe Val Leu Asp Glu Tyr Cys Ala
610              615              620
Arg Asn Gly Val Arg Gly Cys His Arg His Leu Cys Tyr Leu Arg Asp
625              630              635              640
Leu Leu Glu Arg Ala Glu Asn Gly Ala Met Ile Asp Pro Thr Leu Leu
      645              650              655
His Tyr Ser Phe Ala Phe Cys Ala Ser His Val His Gly Asn Arg Pro
      660              665              670
Asp Gly Ile Gly Thr Val Thr Val Glu Glu Lys Glu Arg Phe Glu Glu
      675              680              685
Ile Lys Glu Arg Leu Arg Val Leu Leu Glu Asn Gln Ile Thr His Phe
      690              695              700
Arg Tyr Cys Phe Pro Phe Gly Arg Pro Glu Gly Ala Leu Lys Ala Thr
      705              710              715              720
Leu Ser Leu Leu Glu Arg Val Leu Met Lys Asp Ile Val Thr Pro Val
      725              730              735
Pro Gln Glu Glu Val Lys Thr Val Ile Arg Lys Cys Leu Glu Gln Ala
      740              745              750
Ala Leu Val Asn Tyr Ser Arg Leu Ser Glu Tyr Ala Lys Ile Glu Glu
      755              760              765
Asn Gln Lys Asp Ala Glu Asn Val Gly Arg Leu Ile Thr Pro Ala Lys
      770              775              780
Lys Leu Glu Asp Thr Ile Arg Leu Ala Glu Leu Val Ile Glu Val Leu
      785              790              795              800
Gln Gln Asn Glu Glu His His Ala Glu Pro His Val Asp Lys Gly Glu
      805              810              815
Ala Phe Ala Trp Trp Ser Asp Leu Met Val Glu His Ala Glu Thr Phe
      820              825              830
Leu Ser Leu Phe Ala Val Asp Met Asp Ala Ala Leu Glu Val Gln Pro
      835              840              845
Pro Asp Thr Trp Asp Ser Phe Pro Leu Phe Gln Leu Leu Asn Asp Phe
      850              855              860
Leu Arg Thr Asp Tyr Asn Leu Cys Asn Gly Lys Phe His Lys His Leu
      865              870              875              880
Gln Asp Leu Phe Ala Pro Leu Val Val Arg Tyr Val Asp Leu Met Glu
      885              890              895
Ser Ser Ile Ala Gln Ser Ile His Arg Gly Phe Glu Arg Glu Ser Trp
      900              905              910
Glu Pro Val Asn Asn Gly Ser Gly Thr Ser Glu Asp Leu Phe Trp Lys
      915              920              925
Leu Asp Ala Leu Gln Thr Phe Ile Arg Asp Leu His Trp Pro Glu Glu
      930              935              940
Glu Phe Gly Lys His Leu Glu Gln Arg Leu Lys Leu Met Ala Ser Asp
      945              950              955              960
Met Ile Glu Ser Cys Val Lys Arg Thr Arg Ile Ala Phe Glu Val Lys
      965              970              975
Leu Gln Lys Thr Ser Arg Ser Thr Asp Phe Arg Val Pro Gln Ser Ile
      980              985              990
Cys Thr Met Phe Asn Val Met Val Asp Ala Lys Ala Gln Ser Thr Lys
      995              1000              1005
Leu Cys Ser Met Glu Met Gly Gln Glu Phe Ala Lys Met Trp His Gln
      1010              1015              1020
Tyr His Ser Lys Ile Asp Glu Leu Ile Glu Glu Thr Val Lys Glu Met

```

1025 1030 1035 1040
 Ile Thr Leu Leu Val Ala Lys Phe Val Thr Ile Leu Glu Gly Val Leu
 1045 1050 1055
 Ala Lys Leu Ser Arg Tyr Asp Glu Gly Thr Leu Phe Ser Ser Phe Leu
 1060 1065 1070
 Ser Phe Thr Val Lys Ala Ala Ser Lys Tyr Val Asp Val Pro Lys Pro
 1075 1080 1085
 Gly Met Asp Val Ala Asp Ala Tyr Val Thr Phe Val Arg His Ser Gln
 1090 1095 1100
 Asp Val Leu Arg Asp Lys Val Asn Glu Glu Met Tyr Ile Glu Arg Leu
 1105 1110 1115 1120
 Phe Asp Gln Trp Tyr Asn Ser Ser Met Asn Val Ile Cys Thr Trp Leu
 1125 1130 1135
 Thr Asp Arg Met Asp Leu Gln Leu His Ile Tyr Gln Leu Lys Thr Leu
 1140 1145 1150
 Ile Arg Met Val Lys Lys Thr Tyr Arg Asp Phe Arg Leu Gln Gly Val
 1155 1160 1165
 Leu Asp Ser Thr Leu Asn Ser Lys Thr Tyr Glu Thr Ile Arg Asn Arg
 1170 1175 1180
 Leu Thr Val Glu Glu Ala Thr Ala Ser Val Ser Glu Gly Gly Gly Leu
 1185 1190 1195 1200
 Gln Gly Ile Ser Met Lys Asp Ser Asp Glu Glu Asp Glu Glu Asp Asp
 1205 1210 1215

<210> 3723

<211> 830

<212> DNA

<213> Homo sapiens

<400> 3723

atcctcttga tgcacaagat gaggggtttg cacctggacc tcaagccaga gaacatcctg
 60
 tgtgtcaaca ccaccgggca ttgtgtgaag atcattgact ttggcctggc acggagggtat
 120
 aacccaacg agaagctgaa ggtgaacttt gggaccccag agttcctgtc acctgagggtg
 180
 gtgaattatg accaaatctc cgataagaca gacatgtgga gatatggggg gatcacctac
 240
 atgctgctga gcggcctctc ccccttcctg ggagatgatg acacagagac cctaaacaac
 300
 gttctatctg gcaactggta ctttgatgaa gagacctttg aggccgtatc agacgaggcc
 360
 aaagactttg tctccaacct catcgtcaag gaccagaggg cccggatgaa cgctgcccag
 420
 tgtctcgccc atccctggct caacaacctg gcggagaaag ccaaacgctg taaccgacgc
 480
 ctttaagtccc agatcttgct taagaaatac ctcatgaaga ggcgctggaa gaaaaacttc
 540
 attgctgtca gcgctgccaa ccgcttcaag aagatcagca gctcgggggc actgatggct
 600
 ctgggggtct gagccctggg cgcagctgaa gcctggacgc agccacacag tggccggggc
 660
 tgaagccaca cagcccagaa ggccagaaaa ggcagccaga tccccagggc agcctcgtaa
 720

ggacaaggct gtgccaggct gggaggctcg gggctcccca cgcccccatg cagtgaaccg
 780
 ttccccgatg tgagccgcct cggagtgtgg cctggatcca tctgtctagc
 830

<210> 3724
 <211> 203
 <212> PRT
 <213> Homo sapiens

<400> 3724
 Ile Leu Leu Met His Lys Met Arg Val Leu His Leu Asp Leu Lys Pro
 1 5 10 15
 Glu Asn Ile Leu Cys Val Asn Thr Thr Gly His Leu Val Lys Ile Ile
 20 25 30
 Asp Phe Gly Leu Ala Arg Arg Tyr Asn Pro Asn Glu Lys Leu Lys Val
 35 40 45
 Asn Phe Gly Thr Pro Glu Phe Leu Ser Pro Glu Val Val Asn Tyr Asp
 50 55 60
 Gln Ile Ser Asp Lys Thr Asp Met Trp Ser Met Gly Val Ile Thr Tyr
 65 70 75 80
 Met Leu Leu Ser Gly Leu Ser Pro Phe Leu Gly Asp Asp Asp Thr Glu
 85 90 95
 Thr Leu Asn Asn Val Leu Ser Gly Asn Trp Tyr Phe Asp Glu Glu Thr
 100 105 110
 Phe Glu Ala Val Ser Asp Glu Ala Lys Asp Phe Val Ser Asn Leu Ile
 115 120 125
 Val Lys Asp Gln Arg Ala Arg Met Asn Ala Ala Gln Cys Leu Ala His
 130 135 140
 Pro Trp Leu Asn Asn Leu Ala Glu Lys Ala Lys Arg Cys Asn Arg Arg
 145 150 155 160
 Leu Lys Ser Gln Ile Leu Leu Lys Lys Tyr Leu Met Lys Arg Arg Trp
 165 170 175
 Lys Lys Asn Phe Ile Ala Val Ser Ala Ala Asn Arg Phe Lys Lys Ile
 180 185 190
 Ser Ser Ser Gly Ala Leu Met Ala Leu Gly Val
 195 200

<210> 3725
 <211> 1244
 <212> DNA
 <213> Homo sapiens

<400> 3725
 ngaattcatg tgtcaggtaa ggatattaca aggaacccctg agatttcttg gcattgtaatt
 60
 tctgtctcatg gcttatcagt cttgaatctg cgggatggaa gagagctgga ttccagatct
 120
 gaccatcttc acttttggtt tcaggccttt aaaattgtgc cctacaacac agagaccctt
 180
 gataaactgc taaccgaatc cctgaagaac aatatccctg caagcggact gcacctcttt
 240
 ggaatcaacc agctggaaga agaagatatg atgacaaatc agagggatga agagctgccc
 300

accctgttgc attttctgc gaagtatgga ctgaagaacc tcaactgcctt gttgctcacc
 360
 tgcccaggag ccttcgaggc gtacagcgtg gccacaagc atggccacta cccaacacc
 420
 atcgctgaga aacacggctt cagggacctg cggcagttca tgcacgagta tgtggaacg
 480
 gtggacatgc tcaagagtca cattaaagag gaactgatgc acggggagga ggctgatgct
 540
 gtgtacgagt ccatggccca cctttccaca gacctgctta tgaaatgctc gctcaacccc
 600
 ggctgtgacg aggatctcta tgagtccatg gctgcctttg tcccagctgc cactgaagac
 660
 ctctatgttg aaatgcttca ggccagtaca tctaaccctaa tccctggaga tggtttctct
 720
 cgggcccacta aggactctat gatccgcaag tttttagaag gcaacagcat gggaatgacc
 780
 aatctggaga gagatcagtg ccatcttggg caggaagaag atgtttatca cacggtggat
 840
 gacgatgagg ccttttctgt ggacttggcc agcaggcccc ctgtccagtg gccagacca
 900
 gagaccactg ctccctgggtgc tcaccagctg cctgacaacg aaccatacat ttttaaaggc
 960
 aagtatggca gggaatgatg tccaactggt tctttggagc ttctcaacag ggatttctctg
 1020
 gatgacctgg ctttttgaac cattgctcag agactatccc cttctaaatg gtcttcaccc
 1080
 agccctacga gacaggggtc atactctggg gccagattct ggagctagaa taggagtaat
 1140
 gaccagagtc agtgctggcc ttcttggaag tatttacgca cagttgcaaa ggcaggtaaa
 1200
 caagacccct gatataatct tctctcctga accccttcac gcgt
 1244

<210> 3726

<211> 325

<212> PRT

<213> Homo sapiens

<400> 3726

Xaa	Ile	His	Val	Ser	Gly	Lys	Asp	Ile	Thr	Arg	Lys	Pro	Glu	Ile	Ser
1				5					10					15	
Gly	His	Val	Ile	Ser	Ala	His	Gly	Leu	Ser	Val	Leu	Asn	Leu	Arg	Asp
			20				25						30		
Gly	Arg	Glu	Leu	Asp	Phe	Arg	Ser	Asp	His	Leu	His	Phe	Cys	Phe	Gln
	35					40					45				
Ala	Phe	Lys	Ile	Val	Pro	Tyr	Asn	Thr	Glu	Thr	Leu	Asp	Lys	Leu	Leu
	50					55				60					
Thr	Glu	Ser	Leu	Lys	Asn	Asn	Ile	Pro	Ala	Ser	Gly	Leu	His	Leu	Phe
65					70					75				80	
Gly	Ile	Asn	Gln	Leu	Glu	Glu	Asp	Met	Met	Thr	Asn	Gln	Arg	Asp	
			85					90					95		
Glu	Glu	Leu	Pro	Thr	Leu	Leu	His	Phe	Ala	Ala	Lys	Tyr	Gly	Leu	Lys
			100					105					110		
Asn	Leu	Thr	Ala	Leu	Leu	Leu	Thr	Cys	Pro	Gly	Ala	Leu	Gln	Ala	Tyr

```

      115      120      125
Ser Val Ala Asn Lys His Gly His Tyr Pro Asn Thr Ile Ala Glu Lys
      130      135      140
His Gly Phe Arg Asp Leu Arg Gln Phe Ile Asp Glu Tyr Val Glu Thr
145      150      155      160
Val Asp Met Leu Lys Ser His Ile Lys Glu Leu Met His Gly Glu
      165      170      175
Glu Ala Asp Ala Val Tyr Glu Ser Met Ala His Leu Ser Thr Asp Leu
      180      185      190
Leu Met Lys Cys Ser Leu Asn Pro Gly Cys Asp Glu Asp Leu Tyr Glu
      195      200      205
Ser Met Ala Ala Phe Val Pro Ala Ala Thr Glu Asp Leu Tyr Val Glu
      210      215      220
Met Leu Gln Ala Ser Thr Ser Asn Pro Ile Pro Gly Asp Gly Phe Ser
225      230      235      240
Arg Ala Thr Lys Asp Ser Met Ile Arg Lys Phe Leu Glu Gly Asn Ser
      245      250      255
Met Gly Met Thr Asn Leu Glu Arg Asp Gln Cys His Leu Gly Gln Glu
      260      265      270
Glu Asp Val Tyr His Thr Val Asp Asp Glu Ala Phe Ser Val Asp
      275      280      285
Leu Ala Ser Arg Pro Pro Val Pro Val Pro Arg Pro Glu Thr Thr Ala
      290      295      300
Pro Gly Ala His Gln Leu Pro Asp Asn Glu Pro Tyr Ile Phe Lys Gly
305      310      315      320
Lys Tyr Gly Arg Glu
      325

```

<210> 3727

<211> 630

<212> DNA

<213> Homo sapiens

<400> 3727

```

cggattcgag tcattcaagaa gaaaaagggtc attatgaaga agcgggaagaa gctaactcta
60
actcgcccca cccactggt gactgccggg ccccttgtga ccccaactcc agcagggacc
120
ctcgaccccg ctgagaaaca agaaacaggc tgtctctctt tgggtcttgg gtccctgcga
180
gtttcagata gccggcttga ggcattccagc agccagtcct ttggtcttgg accacaccga
240
ggacggctca acattcagtc aggcctggag gacggcgatc tatatgatgg agcctggtgt
300
gctgaggagc aggacgccga tccatggttt caggtggacg ctgggcaccc caccgccttc
360
tcgggtgtta tcacacaggg caggaactct gtctggaggt atgactgggt cacatcatac
420
aagggtccagt tcagcaatga cagtcggacc tgggtgggaa gtaggaacca cagcagtggt
480
atggacgcag tatttctctg caattcagac ccagaaactc cagtgtctgaa cctctgctcg
540
gagcccccagg tggcccgctt cattcgcttg ctgcccaga cctggctcca gggaggcgcg
600

```


ccttgccctcc gggcagagat cctggcctgc
630

<210> 3728

<211> 210

<212> PRT

<213> Homo sapiens

<400> 3728

```

Arg Ile Arg Val Ile Lys Lys Lys Lys Val Ile Met Lys Lys Arg Lys
 1           5           10           15
Lys Leu Thr Leu Thr Arg Pro Thr Pro Leu Val Thr Ala Gly Pro Leu
 20           25           30
Val Thr Pro Thr Pro Ala Gly Thr Leu Asp Pro Ala Glu Lys Gln Glu
 35           40           45
Thr Gly Cys Pro Pro Leu Gly Leu Glu Ser Leu Arg Val Ser Asp Ser
 50           55           60
Arg Leu Glu Ala Ser Ser Ser Gln Ser Phe Gly Leu Gly Pro His Arg
 65           70           75           80
Gly Arg Leu Asn Ile Gln Ser Gly Leu Glu Asp Gly Asp Leu Tyr Asp
 85           90           95
Gly Ala Trp Cys Ala Glu Glu Gln Asp Ala Asp Pro Trp Phe Gln Val
100           105           110
Asp Ala Gly His Pro Thr Arg Phe Ser Gly Val Ile Thr Gln Gly Arg
115           120           125
Asn Ser Val Trp Arg Tyr Asp Trp Val Thr Ser Tyr Lys Val Gln Phe
130           135           140
Ser Asn Asp Ser Arg Thr Trp Trp Gly Ser Arg Asn His Ser Ser Gly
145           150           155           160
Met Asp Ala Val Phe Pro Ala Asn Ser Asp Pro Glu Thr Pro Val Leu
165           170           175
Asn Leu Leu Pro Glu Pro Gln Val Ala Arg Phe Ile Arg Leu Leu Pro
180           185           190
Gln Thr Trp Leu Gln Gly Gly Ala Pro Cys Leu Arg Ala Glu Ile Leu
195           200           205
Ala Cys
210

```

<210> 3729

<211> 1552

<212> DNA

<213> Homo sapiens

<400> 3729

```

naggaaacgc tttgtctgtc cggcaagccg acggcccgcct gctggcctcc gtgacgcggg
 60
cctcctccgc gcctcgcggc atggagtaga aagggaccgc ggaagccga aagcgaaggc
120
atcaagttat cagcagatgt caaaccattt gtccccagat ttgccgggct caatgtggca
180
tggttagagt cctcagaagc atgtgtcttc ccagctctg cagccacata ctatccgttt
240
gttcaggaac caccagtgc agagcagaaa atatatactg aagacatggc ctttgagct
300

```

tcaacttttc cacctcagta tttatcttct gagataactc ttcattccata tgcctattct
 360
 ccttatacc ttgactccac acagaatgtt tactcagtgc ctggctccca gtatctttat
 420
 aaccaaccca gttgttaccg aggttttcaa acagtgaagc atcgaaatga gaacacatgc
 480
 cctctccac aagaaatgaa agctctgttt aagaagaaaa cctatgatga gaaaaaaacg
 540
 tatgatcagc aaaagtttga cagtgaagg gctgatggaa ctatatcatc tgagataaaa
 600
 tcagctagag gttcacatca tttgtccatt tacgctgaga atagtttgaa atcagatggg
 660
 taccataagc gaacagacag gaaatccaga atcattgcaa aaaatgtatc tacctccaaa
 720
 cctgagtttg aatttaccac actggacttt cctgaactgc aagggtgcaga gaacaatatg
 780
 tcagagatac agaagcaacc caagtgggga cctgtccact ctgtctctac cgacatttct
 840
 cttctaagag aagtagtaaa accagctgca gtgttatcaa agggtgaaat agtggtgaaa
 900
 aataacccaa atgaatctgt aactgctaata gccgctacca attctccttc atgtacaaga
 960
 gagttatctt ggacaccaat gggttatgtt gttcgacaga cattatctac agaactgtca
 1020
 gcagccctta aaaatgttac ttctatgata aacttaaga ccattgtctc atcagcagat
 1080
 cctaaaaatg ttagtatacc atcttctgaa gctttatctt cggatccttc ctacaacaaa
 1140
 gaaaaacaca ttattcatcc taccctaaaag tctaaagcat cacaaggtag tgaccttgaa
 1200
 caaaatgaag cctcaagaaa gaataagaaa aagaagaaa aatctacatc aaaatatgaa
 1260
 gtcctgacag ttcaagagcc tccaaggatt gaagatgccg aggaatttcc caacctggca
 1320
 gttgcatctg aaagaagaga cagaatagag acaccgaaat ttcaatctaa gcagcagcca
 1380
 caggataatt ttaaaaaataa tgtaagaag agccagcttc cagtgcagtt ggacttgggg
 1440
 ggcatgctga cagccctgga gaagaagcag cactctcagc atgcaaagca gtcctccaaa
 1500
 ccagtggtag tctcagttgg agcagtgcca gtcctttcca aagaatgtgc ac
 1552

<210> 3730

<211> 422

<212> PRT

<213> Homo sapiens

<400> 3730

Met Ala Phe Gly Ala Ser Thr Phe Pro Pro Gln Tyr Leu Ser Ser Glu
 1 5 10 15
 Ile Thr Leu His Pro Tyr Ala Tyr Ser Pro Tyr Thr Leu Asp Ser Thr
 20 25 30
 Gln Asn Val Tyr Ser Val Pro Gly Ser Gln Tyr Leu Tyr Asn Gln Pro

```

      35      40      45
Ser Cys Tyr Arg Gly Phe Gln Thr Val Lys His Arg Asn Glu Asn Thr
  50      55      60
Cys Pro Leu Pro Gln Glu Met Lys Ala Leu Phe Lys Lys Lys Thr Tyr
  65      70      75      80
Asp Glu Lys Lys Thr Tyr Asp Gln Gln Lys Phe Asp Ser Glu Arg Ala
  85      90      95
Asp Gly Thr Ile Ser Ser Glu Ile Lys Ser Ala Arg Gly Ser His His
  100      105      110
Leu Ser Ile Tyr Ala Glu Asn Ser Leu Lys Ser Asp Gly Tyr His Lys
  115      120      125
Arg Thr Asp Arg Lys Ser Arg Ile Ile Ala Lys Asn Val Ser Thr Ser
  130      135      140
Lys Pro Glu Phe Glu Phe Thr Thr Leu Asp Phe Pro Glu Leu Gln Gly
  145      150      155      160
Ala Glu Asn Asn Met Ser Glu Ile Gln Lys Gln Pro Lys Trp Gly Pro
  165      170      175
Val His Ser Val Ser Thr Asp Ile Ser Leu Leu Arg Glu Val Val Lys
  180      185      190
Pro Ala Ala Val Leu Ser Lys Gly Glu Ile Val Val Lys Asn Asn Pro
  195      200      205
Asn Glu Ser Val Thr Ala Asn Ala Ala Thr Asn Ser Pro Ser Cys Thr
  210      215      220
Arg Glu Leu Ser Trp Thr Pro Met Gly Tyr Val Val Arg Gln Thr Leu
  225      230      235      240
Ser Thr Glu Leu Ser Ala Ala Pro Lys Asn Val Thr Ser Met Ile Asn
  245      250      255
Leu Lys Thr Ile Ala Ser Ser Ala Asp Pro Lys Asn Val Ser Ile Pro
  260      265      270
Ser Ser Glu Ala Leu Ser Ser Asp Pro Ser Tyr Asn Lys Glu Lys His
  275      280      285
Ile Ile His Pro Thr Gln Lys Ser Lys Ala Ser Gln Gly Ser Asp Leu
  290      295      300
Glu Gln Asn Glu Ala Ser Arg Lys Asn Lys Lys Lys Lys Glu Lys Ser
  305      310      315      320
Thr Ser Lys Tyr Glu Val Leu Thr Val Gln Glu Pro Pro Arg Ile Glu
  325      330      335
Asp Ala Glu Glu Phe Pro Asn Leu Ala Val Ala Ser Glu Arg Arg Asp
  340      345      350
Arg Ile Glu Thr Pro Lys Phe Gln Ser Lys Gln Gln Pro Gln Asp Asn
  355      360      365
Phe Lys Asn Asn Val Lys Lys Ser Gln Leu Pro Val Gln Leu Asp Leu
  370      375      380
Gly Gly Met Leu Thr Ala Leu Glu Lys Lys Gln His Ser Gln His Ala
  385      390      395      400
Lys Gln Ser Ser Lys Pro Val Val Val Ser Val Gly Ala Val Pro Val
  405      410      415
Leu Ser Lys Glu Cys Ala
  420

```

<210> 3731
 <211> 1704
 <212> DNA
 <213> Homo sapiens

<400> 3731
tacgtgctca gaaacctcta cgtccccaac cggaagggtga agtccctgtg ctgggcctcg
60
ctgaaccagt tggactctca cgttctgctg tgcttcgagg gaatcacaga tgcttcaagc
120
tgtgcagtgc tgctccagc atcaactgttc gtcaatagtc acccaggaat agaccggcct
180
ggcatgctct gcagtttccg gatccctggt gcctggtcct gtgcctggtc cctgaatata
240
caagcaaata actgcttcag tacaggcttg tctcggcggg tcctgttgac caactgggtg
300
acgggacacc ggcagtcctt tgggaccaac agtgatgtct tggccagca gtttgetctc
360
atggctcctc tgctgtttaa tggctgccgc tctggggaaa tctttgccat tgatctgcgt
420
tgtggaaatc aaggcaaggg atggaaggcc acccgctgt ttcattgattc agcagtgacc
480
tctgtgcgga tcctccaaga tgagcaatac ctgatggctt cagacatggc tggaaagatc
540
aagctgtggg acctgaggac cacgaagtgc gtaaggcagt acgaaggcca cgtgaatgag
600
tacgcctacc tgccccctga tgtgcacgag gaagaaggaa tcctggtggc agtgggcccag
660
gactgctaca cgagaatctg gagcctccac gatgcccgc tactgagaac cataccctcc
720
ccgtaccctg cctccaaggg cgacattccc agtgtggcct tctcgtcgcg gctggggggc
780
tcccggggcg cgcgggggct gctcatggct gtcgggcagg acctttactg ttactcctac
840
agctaattct gcaggggcaca gcccagagcc atgtggattt gacttacggg agtaaacggt
900
aactttttac tgcattctaat gaggggtgtt taagtgcac tcagtgtaca cagatcccat
960
cctctggctg ctaggagaga agtgcgtgaat gttccgtgtg gagatgctca ggaaagtatt
1020
ttgagttaaa ttgctggctg agagagcttg gaagtccttt tcataaaagg tacctctttc
1080
cttttcttat tgaattctta gaacttagtt aacctccctt gccttttctt aacaaaaagg
1140
acttttctaa ggactgaaga ttggcaaaaa cgaaaagctt cttctctcaa gagccattg
1200
aagaagccca gtgatgagac ggtgagatgg tttgagtcct cgggtgcctg gtagcaggaa
1260
gaaagacctg catcctgcat ctgtacttgg ggaagccagc ggagaggacy gggaggttac
1320
ttctctaagt ttctgcagaa atattgaagg ctggagtgtg gaatccttaa acttggcctt
1380
ctcaaaacta gcagcagatc tccgggattc tgctgttatt atccaaaggc gttggaagga
1440
aagatggatc ttcttacatg ctagaagttt taaacgggtc ttaacatgcc tttgttcaag
1500
caccttccag aatgtaaggt tcagcagctc tggtttctat tacggtgact tgaatgtcag
1560

attcaagggc cggcgctcaa aggaaattgg ttttgacttt ttgtaactta ggagcgacag
 1620
 ttctgtgagat gtttattcag tggttaaagag cctgtttttc taccaaacaa taaaaccaag
 1680
 agaagaaaaa aaaaaaaaaa aaaa
 1704

<210> 3732
 <211> 281
 <212> PRT
 <213> Homo sapiens

<400> 3732
 Tyr Val Leu Arg Asn Leu Tyr Val Pro Asn Arg Lys Val Lys Ser Leu
 1 5 10 15
 Cys Trp Ala Ser Leu Asn Gln Leu Asp Ser His Val Leu Leu Cys Phe
 20 25 30
 Glu Gly Ile Thr Asp Ala Ser Ser Cys Ala Val Leu Leu Pro Ala Ser
 35 40 45
 Leu Phe Val Asn Ser His Pro Gly Ile Asp Arg Pro Gly Met Leu Cys
 50 55 60
 Ser Phe Arg Ile Pro Gly Ala Trp Ser Cys Ala Trp Ser Leu Asn Ile
 65 70 75 80
 Gln Ala Asn Asn Cys Phe Ser Thr Gly Leu Ser Arg Arg Val Leu Leu
 85 90 95
 Thr Asn Val Val Thr Gly His Arg Gln Ser Phe Gly Thr Asn Ser Asp
 100 105 110
 Val Leu Ala Gln Gln Phe Ala Leu Met Ala Pro Leu Leu Phe Asn Gly
 115 120 125
 Cys Arg Ser Gly Glu Ile Phe Ala Ile Asp Leu Arg Cys Gly Asn Gln
 130 135 140
 Gly Lys Gly Trp Lys Ala Thr Arg Leu Phe His Asp Ser Ala Val Thr
 145 150 155 160
 Ser Val Arg Ile Leu Gln Asp Glu Gln Tyr Leu Met Ala Ser Asp Met
 165 170 175
 Ala Gly Lys Ile Lys Leu Trp Asp Leu Arg Thr Thr Lys Cys Val Arg
 180 185 190
 Gln Tyr Glu Gly His Val Asn Glu Tyr Ala Tyr Leu Pro Leu His Val
 195 200 205
 His Glu Glu Glu Gly Ile Leu Val Ala Val Gly Gln Asp Cys Tyr Thr
 210 215 220
 Arg Ile Trp Ser Leu His Asp Ala Arg Leu Leu Arg Thr Ile Pro Ser
 225 230 235 240
 Pro Tyr Pro Ala Ser Lys Ala Asp Ile Pro Ser Val Ala Phe Ser Ser
 245 250 255
 Arg Leu Gly Gly Ser Arg Gly Ala Pro Gly Leu Leu Met Ala Val Gly
 260 265 270
 Gln Asp Leu Tyr Cys Tyr Ser Tyr Ser
 275 280

<210> 3733
 <211> 515
 <212> DNA
 <213> Homo sapiens

<400> 3733
 nngggccgag ctgtccgacg tgctactgca gggacccgcc cgggggtgggt ctcgggctct
 60
 cgctaccgga gagggaggag aagggggagg ttaaaggga aggaccccg aagtgcctcc
 120
 tcctcagtg gggagaggga gacgccggg gcangtccat gcctcccgcg gcgtggttg
 180
 tgcgtcccg gtgacgtcag aagcagcccg cccctgcctg gatggtgcgc cctgagtga
 240
 gtcaggagca gaggccggag ctgtccatca gcaccaaagg ccgcgggcgg gctcagggca
 300
 tggggcccg gttctggggc ggcccagacc ccggctcctg cgccttcccc ttcctcaggc
 360
 nccagcccg gttcccgac gcccgggac tggagtcca gccgtgttg gacgtggagc
 420
 ggcgcgcca ccgcgcgac accattctct ccggcccagc agcccccttc ctcgcacgac
 480
 ggactttccc tggacccag tcagttggag cctct
 515

<210> 3734
 <211> 171
 <212> PRT
 <213> Homo sapiens

<400> 3734
 Xaa Gly Arg Ala Val Arg Arg Val Thr Ala Gly Thr Arg Pro Gly Trp
 1 5 10 15
 Val Ser Gly Ser Arg Tyr Arg Arg Gly Arg Arg Gly Arg Leu Lys
 20 25 30
 Gly Lys Asp Pro Gly Ser Ala Pro Ser Ser Val Arg Glu Arg Glu Thr
 35 40 45
 Pro Gly Ala Xaa Pro Cys Leu Pro Arg Arg Gly Trp Cys Val Pro Gly
 50 55 60
 Asp Val Arg Ser Ser Pro Pro Leu Pro Gly Trp Cys Ala Leu Ser Asp
 65 70 75 80
 Val Arg Ser Arg Gly Arg Ser Cys Pro Ser Ala Pro Lys Ala Ala Gly
 85 90 95
 Gly Leu Arg Ala Trp Gly Arg Gly Ser Gly Ala Ala Arg Ala Pro Ala
 100 105 110
 Pro Ala Pro Ser Pro Ser Ser Gly Xaa Ser Pro Ser Ser Arg Thr Pro
 115 120 125
 Arg Asp Trp Ser Ala Ser Arg Cys Trp Thr Trp Ser Gly Ala Ala Thr
 130 135 140
 Ala Pro Thr Pro Phe Ser Pro Ala Gln Gln Pro Pro Ser Ser His Asp
 145 150 155 160
 Gly Leu Ser Leu Asp Pro Ser Gln Leu Glu Pro
 165 170

<210> 3735
 <211> 2512
 <212> DNA
 <213> Homo sapiens

<400> 3735
ngcagggttct tcggaaggct tgtagctcca aaatggatcg ccagagtgtt ctccatgtac
60
tgggcatatt gaaaaactcc aaatttctca aagtctgcct gcctgcttat gtggtaggga
120
tgatcactga acccatccct gacatccgaa accagtatcc agagcacata agcaacatca
180
tctccctcct ccaggacctt gtaagtgtct tccctgccag ctctgtgcag gaaacttcca
240
tgctgggttc cctcctgcc aacctcttta atgctctgag agcctctggt gttgacatag
300
aagaggaaac ggagaagaac ctggaaaagg tacagactat cattgaacat ctgcaggaaa
360
agaggcgaga gggcactttg agagtggata cctacactct agtgcagcct gaggcagaag
420
accatgttga gagctaccga accatgccca ttaccctac ctacaatgaa gtgcacttgg
480
atgagaggcc ctctctcgc cccaatatca tttctggaaa atacgacagc actgctatct
540
atctggatac ccacttccgg ctctgcgag aagatttctg cagacctta cggaaggta
600
ttttggaact tctccaaagc tttgaagacc agggcctgag gaagagaaag tttgatgaca
660
tccgaatcta ctttgacacc aggattatca cccccatgtg ttcacatca ggcatagtct
720
acaagggtga gtttgacaca aaacctga agtttgttcg ctggcagaat tccaaacgat
780
tgctctatgg gtcttttgta tgcattgcca aggacaactt cgagacattt ctttttgcca
840
ccgtatctaa caggagcag gaagatctct gccagggaat tgtccagctc tgcttcaatg
900
agcaaaagcca acagctgcta gcagaggctc agccctctga ctctttcctc atggtagaga
960
caactgcata ctttgaggcc tacaggcacg tcttgggaagg actccaggag gtccaggagg
1020
aagatgttcc ctccagagg aatatcgtgg agtgtaactc tcatgtgaag gagccaaggt
1080
acttgctaata ggggggcaga tatgacttta ccccttaat agagaatcct tcagccactg
1140
gggaatttct aagaaatgtc gagggtttga gacatcccag aattaatgtc ttatagctctg
1200
gccagtggcc ctcaaaagaa gccctgaagc tggatgactc ccagatggaa gccttgacgt
1260
ttgctctcac aagggaactg gctattattc aaggacctcc tggaacaggc aaaacctatg
1320
tggtgtctaaa aattgttcag gccctcctaa ccaacgagtc tggttggcaa attagcctcc
1380
agaagttccc catcttggtt gtgtgttata ctaatcatgc tttggaccag tttctggaag
1440
gcatctacaa ttgtcagaag accagcattg tgcgggtggg tggaaggagc aacagtgaag
1500
tcctgaagca gttcaccccta agggagctga ggaacaagcg ggaattccgc cgcaacctcc
1560

ccattgcacct ccgaaggggcc tacatgagta tcatgacaca gatgaaggag tcagagcaag
 1620
 agcttcatga aggagccaag accctggagt gcacccatgcg tgggtgccta cgggaacagt
 1680
 acctgcagaa gtacatctca ccccgagcact gggaaagtct catgaatgga ccagtgcagg
 1740
 atagtgaatg gatttgcttc cagcactgga agcattccat gatgctggag tggctaggtc
 1800
 ttgggtgctcg ttttttcacg caaagtgttt ctccagcagg acctgagaat acagcccagg
 1860
 cagaagggga tgaggaggaa gaaggggagg aggagagttc gctgatagag atcgagagg
 1920
 aagctgacct gattcaagca gaccgggtga ttgaggagga agaggtggag agggcccagg
 1980
 ggcggaagaa ggaagagagt ggagcagacc aggagttggc taaaatgctt ctggccatga
 2040
 ggctagacca ttgtggcact gggacagcag ctggacagga gcaagccaca ggagagtggc
 2100
 agacccagcg caaccagaa aaagaaaatg aaaaaagag tgaaggatga gcttcgcaaa
 2160
 ctgaacacca tgcctgcagc cgaggccaac gagatcgagg atgtttggca cctggacctc
 2220
 agttctcgct ggcagcttta taggctctgg ctacagtgt accaggtga caccgccccc
 2280
 gggaagatcc tcagctatga acgccagtac cgcacatcag cagaagaat ggccgagctg
 2340
 agactccagg aagacctgca cattcttaaa gatgccagg ttgtaggaat gacaaccaca
 2400
 ggtgctgcca aataccgcca gatcctacag aaggtggagc cgaggattgt catagtggaa
 2460
 gaagctgcgg aagtccttga ggcccatacc attgccacat tgagcaaac tt
 2512

<210> 3736

<211> 155

<212> PRT

<213> Homo sapiens

<400> 3736

Thr Ile Val Ala Leu Gly Gln Gln Leu Asp Arg Ser Lys Pro Gln Glu
 1 5 10 15
 Ser Gly Arg Pro Ser Ala Thr Gln Lys Lys Lys Met Lys Lys Arg Val
 20 25 30
 Lys Asp Glu Leu Arg Lys Leu Asn Thr Met Pro Ala Ala Glu Ala Asn
 35 40 45
 Glu Ile Glu Asp Val Trp His Leu Asp Leu Ser Ser Arg Trp Gln Leu
 50 55 60
 Tyr Arg Leu Trp Leu Gln Leu Tyr Gln Ala Asp Thr Pro Pro Gly Lys
 65 70 75 80
 Ile Leu Ser Tyr Glu Arg Gln Tyr Arg Thr Ser Ala Glu Arg Met Ala
 85 90 95
 Glu Leu Arg Leu Gln Glu Asp Leu His Ile Leu Lys Asp Ala Gln Val
 100 105 110
 Val Gly Met Thr Thr Thr Gly Ala Ala Lys Tyr Arg Gln Ile Leu Gln


```

      115              120              125
Lys Val Glu Pro Arg Ile Val Ile Val Glu Glu Ala Ala Glu Val Leu
      130              135              140
Glu Ala His Thr Ile Ala Thr Leu Ser Lys Ala
      145              150              155

```

<210> 3737

<211> 1046

<212> DNA

<213> Homo sapiens

<400> 3737

```

ngtgctgtgg ctgcaggctg gcagggtggca gcccctatgcc cagggtgcctg cgtatgctac
60
aatgagccca aggtgacgac aagctgcccc cagcagggcc tgcaggctgt gccctgggg
120
atccctgctg ccagccagcg catcttcctg caccgcaacc gcatctcgca tgtgccagct
180
gccagcttcc gtgcctgccg caacctcacc atcctgtggc tgcactcgaa tgtgtggcc
240
cgaattgatg cgggtgcctt cactggcctg gccctcctgg gagcactgga cctcagcgat
300
aatgcacagc tccggtctgt ggacctgcc acattccacg gcctggggcg cctacacacg
360
ctgcacctgg accgctgcgg cctgcaggag ctggggcccg ggcgtgtccg cggcctggct
420
gccctgcagt acctctacct gcaggacaac gcgctgcagg cactgcctga tgacaccttc
480
cgcgacctgg gcaacctcac acacctcttc ctgcacggca accgcatctc cagcgtgccc
540
gagcgcgcct tccgtgggct gcacagcctc gaccgtctcc tactgcacca gaaccgcgtg
600
gcccattgtc acccgcattg cttccgtgac cttggccgcc tcatgacact ctatctgttt
660
gccaacaatc tatcagcgct gcccaactgag gccctggccc cctgcgtgc cctgcagtac
720
ctgaggctca acgacaaccc ctgggtgtgt gactgccggg cagcccaact ctgggcctgg
780
ctgcagaagt tccgcggctc ctctcccgag gtgccctgca gcctcccga acgcctggct
840
ggccgtgacc tcaaacgcct agctgccaat gacctgcagg gctgcgtgtt ggccaccggc
900
ccttaccatc ccatctggac cggcagggcc accgatgagg agccgctggg gcttcccaag
960
tgctgccagc cagatgccgc tgacaaggcc tcagtactgg agcctggaag accagcttcg
1020
gcaggcaatg cgctgaaggg acgcgt
1046

```

<210> 3738

<211> 348

<212> PRT

<213> Homo sapiens

<400> 3738
Xaa Ala Val Ala Ala Gly Trp Gln Val Ala Ala Pro Cys Pro Gly Ala
1 5 10 15
Cys Val Cys Tyr Asn Glu Pro Lys Val Thr Thr Ser Cys Pro Gln Gln
20 25 30
Gly Leu Gln Ala Val Pro Val Gly Ile Pro Ala Ala Ser Gln Arg Ile
35 40 45
Phe Leu His Gly Asn Arg Ile Ser His Val Pro Ala Ala Ser Phe Arg
50 55 60
Ala Cys Arg Asn Leu Thr Ile Leu Trp Leu His Ser Asn Val Leu Ala
65 70 75 80
Arg Ile Asp Ala Ala Phe Thr Gly Leu Ala Leu Leu Gly Ala Leu
85 90 95
Asp Leu Ser Asp Asn Ala Gln Leu Arg Ser Val Asp Pro Ala Thr Phe
100 105 110
His Gly Leu Gly Arg Leu His Thr Leu His Leu Asp Arg Cys Gly Leu
115 120 125
Gln Glu Leu Gly Pro Gly Leu Phe Arg Gly Leu Ala Ala Leu Gln Tyr
130 135 140
Leu Tyr Leu Gln Asp Asn Ala Leu Gln Ala Leu Pro Asp Asp Thr Phe
145 150 155 160
Arg Asp Leu Gly Asn Leu Thr His Leu Phe Leu His Gly Asn Arg Ile
165 170 175
Ser Ser Val Pro Glu Arg Ala Phe Arg Gly Leu His Ser Leu Asp Arg
180 185 190
Leu Leu Leu His Gln Asn Arg Val Ala His Val His Pro His Ala Phe
195 200 205
Arg Asp Leu Gly Arg Leu Met Thr Leu Tyr Leu Phe Ala Asn Asn Leu
210 215 220
Ser Ala Leu Pro Thr Glu Ala Leu Ala Pro Leu Arg Ala Leu Gln Tyr
225 230 235 240
Leu Arg Leu Asn Asp Asn Pro Trp Val Cys Asp Cys Arg Ala Arg Pro
245 250 255
Leu Trp Ala Trp Leu Gln Lys Phe Arg Gly Ser Ser Ser Glu Val Pro
260 265 270
Cys Ser Leu Pro Gln Arg Leu Ala Gly Arg Asp Leu Lys Arg Leu Ala
275 280 285
Ala Asn Asp Leu Gln Gly Cys Ala Val Ala Thr Gly Pro Tyr His Pro
290 295 300
Ile Trp Thr Gly Arg Ala Thr Asp Glu Glu Pro Leu Gly Leu Pro Lys
305 310 315 320
Cys Cys Gln Pro Asp Ala Ala Asp Lys Ala Ser Val Leu Glu Pro Gly
325 330 335
Arg Pro Ala Ser Ala Gly Asn Ala Leu Lys Gly Arg
340 345

<210> 3739
<211> 1252
<212> DNA
<213> Homo sapiens

<400> 3739
tcataccttat cttegtcatt ttctgggctg agcttttttg acaagggtgct gtgccagtct
60

acacccctca gccagctgtt cttggaggte ctgcccctgg gacttgctcg gctcatccag
 120
 agtgaggagg gcctggagat gctcattcaa tgagcgggag gcacctctcc cttcccgtaa
 180
 cttctccctt aactgggtca gctctcgttc ctgagagtga accaggactt tatattgctg
 240
 tatttcttct gtcggttggt caggaagccg gccagttgag ttagaaaaa tctctctttg
 300
 aggtttctga actgctgttt gttctctgcc aactgggggc gcaatttctc gttgatttct
 360
 agaattgttca tctctgcctt ctgctggac aaagggccgg ctgataccac catgtgacg
 420
 tttgtggcag aagaggtgga gtcagggact tactgttggtg aaaaatgtga tcaactccca
 480
 cagcacttta ggatccttca ccacaaaaac aaggttcgag gtgcctcaac tcagagctga
 540
 aagcactgcc agtagctcag actctgataa gagtgaggta gattgtggcc agcgtgccag
 600
 gtaaccgtct tgatccatag gctcacattt gatcccaact ggcggctgct tcttggcatt
 660
 aactttggat tcccaaccag taaatcttag caagatctga gtttctccag gtatgatatt
 720
 atttgtttg accatcctta tcttcaaggg ctgttggtc tggcagctct tgatgtcagc
 780
 ccacaocatg tgaggctgct cttggtgcac cgaatgggga agtttctaca tcagggcctc
 840
 ggagaatcca ctggaagccc tggacagtgg gagtgcagcg cacccccagt gtggaggcca
 900
 agagcacaca gcactgaagc tccaggacac cctcaggagg acggcaaggg acaattggct
 960
 ggtgagagcc cgggtcaccg ggaaccttcg cctgggtcta aacaggattt gccttcagat
 1020
 tgcttcagaa acgctgggtg gacttcgct aacttcccat tcacagggca gccggcagcc
 1080
 gcgcgcgcgc gcctcgcccc agctcctggc gccgcagatc gcccgctccg cgttcccaaa
 1140
 agccccgcgc tcgctcagaa gctcgggcag cctcgcgacc ctcacctacc cctcccaata
 1200
 tcgcccgtgt ctcaaccgcc gccagccca tagcctgcgg ccagctggat cc
 1252

<210> 3740

<211> 139

<212> PRT

<213> Homo sapiens

<400> 3740

Met Gly Lys Phe Leu His Gln Gly Leu Gly Glu Ser Thr Gly Ser Pro
 1 5 10 15
 Gly Gln Trp Glu Ser Ala Ala Pro Pro Val Trp Arg Pro Arg Ala His
 20 25 30
 Ser Thr Glu Ala Pro Gly His Pro Gln Glu Asp Gly Lys Gly Gln Leu
 35 40 45
 Ala Gly Glu Ser Pro Gly His Arg Glu Pro Ser Pro Gly Ser Lys Gln

```

      50      55      60
Asp Leu Pro Ser Asp Cys Leu Arg Asn Ala Gly Trp Thr Ser Arg Asn
65      70      75      80
Phe Pro Phe Thr Gly Gln Pro Ala Ala Ala Pro Pro Arg Leu Gly Pro
      85      90      95
Ala Pro Gly Ala Ala Asp Arg Pro Ser Arg Val Pro Lys Ser Pro Ala
      100      105      110
Leu Ala Gln Lys Leu Gly Gln Pro Arg Asp Pro His Leu Pro Leu Pro
      115      120      125
Ile Ser Pro Leu Ser Gln Pro Pro Ser Pro
      130      135

```

<210> 3741

<211> 562

<212> DNA

<213> Homo sapiens

<400> 3741

```

cagacagcaa ggcagggccc agtcctctcaa ggccacctcc gacctcggcg gggtaggggca
60
gtcgtgtcca ctgtggggat ccacgtcctg actaaccttg tgttcctaga aatccctcac
120
cggcagatcg gtgcctcctg aatccccccc aaaattccca ctgggaatgt gttcctgaaa
180
gagctgcccc ggcttgagaa agcctctttt cagacaaac ttcgtattca aagctcaaaa
240
agaactgcac acaattagga cagtcataca agatgctgcc cctaactcctg ccacaatctg
300
cgagaaggga ggcggggcctt ccgagggcaa agtgcccctg ggaagggatc cgcaggggaac
360
agctttgaaa ggaccacagc cccacagccac gaggggagca agcacgagcc ggggagagag
420
ctctgcgtc gcacacggga ttcattctcg ccgcctctgc ccgtttccag caacacggag
480
ccaggcggaa acagtttctc cagcccatc gcctccccga ctcttctct cagggcacgg
540
ctgggctgct ttcattcacgc gt
562

```

<210> 3742

<211> 138

<212> PRT

<213> Homo sapiens

<400> 3742

```

Met Gly Trp Arg Asn Cys Phe Arg Leu Ala Pro Cys Cys Trp Lys Arg
1      5      10      15
Ala Glu Ala Ala Glu Met Asn Pro Val Cys Glu Arg Arg Ala Leu Ser
      20      25      30
Pro Ala Arg Ala Cys Ser Pro Arg Gly Trp Gly Leu Trp Ser Phe Gln
      35      40      45
Ser Cys Ser Leu Arg Ile Pro Ser Gln Gly His Phe Ala Leu Gly Ser
      50      55      60
Pro Ala Ser Leu Leu Ala Asp Cys Gly Arg Ile Arg Gly Ser Ile Leu

```

```

65          70          75          80
Tyr Asp Cys Pro Asn Cys Val Gln Phe Phe Leu Ser Phe Glu Tyr Glu
          85          90          95
Val Trp Ser Glu Lys Arg Leu Ser Gln Ala Trp Ala Ala Leu Ser Gly
          100          105          110
Thr His Ser Gln Trp Glu Phe Trp Val Gly Phe Arg Arg His Arg Ser
          115          120          125
Ala Gly Glu Gly Phe Leu Gly Thr Gln Gly
          130          135

```

<210> 3743
 <211> 468
 <212> DNA
 <213> Homo sapiens

```

<400> 3743
nntcatgagc cttcttcaaa gctccatttt ggcaaggcgc tgacaatggc ggaggctgaa
60
ggcaatgcaa gctgcacagt cagtctaggg ggtgccaata tggcagagac ccacaaagcc
120
atgatacctgc aactcaatcc cagtgagaac tgcacctgga caatagaaag accagaaaac
180
aaaagcatca gaattatctt ttcctatgtc cagcttgatc cagatggaag ctgtgaaagt
240
gaaaaçatta aagtccttga cggaacctcc agcaatgggc ctctgctagg gcaagtctgc
300
agtaaaaaacg actatgttcc tgtatttgaa tcatcatcca gtacattgac gtttcaaata
360
gttactgact cagcaagaat tcaaagaact gtctttgtgt tctagtagtt cttatttcct
420
aacatcttta ttccaaagtg tggcgggtac ctggatccct ggaaggat
468

```

<210> 3744
 <211> 134
 <212> PRT
 <213> Homo sapiens

```

<400> 3744
Xaa His Glu Pro Ser Tyr Lys Leu His Phe Gly Lys Ala Leu Thr Met
1          5          10          15
Ala Glu Ala Glu Gly Asn Ala Ser Cys Thr Val Ser Leu Gly Gly Ala
20          25          30
Asn Met Ala Glu Thr His Lys Ala Met Ile Leu Gln Leu Asn Pro Ser
35          40          45
Glu Asn Cys Thr Trp Thr Ile Glu Arg Pro Glu Asn Lys Ser Ile Arg
50          55          60
Ile Ile Phe Ser Tyr Val Gln Leu Asp Pro Asp Gly Ser Cys Glu Ser
65          70          75          80
Glu Asn Ile Lys Val Phe Asp Gly Thr Ser Ser Asn Gly Pro Leu Leu
85          90          95
Gly Gln Val Cys Ser Lys Asn Asp Tyr Val Pro Val Phe Glu Ser Ser
100          105          110
Ser Ser Thr Leu Thr Phe Gln Ile Val Thr Asp Ser Ala Arg Ile Gln

```

115
Arg Thr Val Phe Val Phe
130

120

125

<210> 3745
<211> 345
<212> DNA
<213> Homo sapiens

<400> 3745
acgcgtcgaa agggaaagagc agaggacgct ggctctcatg gcaggatggt gtgtgtacgg
60
gacgctgtgg gagaggaaaa cagccacatg tgggctggct gcttgaggga gacacatgag
120
ccgtgaacac gtctcccccg gccgctccct ggttccatgc gtgctcgtct tgggcaccac
180
gagaacacag ccatgcagcc cccgatcctg cagccacagc caccgcatcg cctggtcgga
240
tgcagcatct gctccggagc cctctcgctg tcggtgccag gcctgccagg ccaagccccg
300
attctcaggg gcggcaggag gtgggaggca cgtttgggcg gatcc
345

<210> 3746
<211> 102
<212> PRT
<213> Homo sapiens

<400> 3746
Met Ala Gly Trp Cys Val Tyr Gly Thr Leu Trp Glu Arg Lys Thr Ala
1 5 10 15
Thr Cys Gly Leu Ala Ala Trp Arg Arg His Met Ser Arg Glu His Val
20 25 30
Ser Pro Gly Arg Ser Leu Val Pro Cys Val Leu Val Leu Gly Thr Thr
35 40 45
Arg Thr Gln Pro Cys Ser Pro Arg Ser Cys Ser His Ser His Gly Ile
50 55 60
Ala Trp Ser Asp Ala Ala Ser Ala Pro Asp Ala Ser Arg Cys Arg Cys
65 70 75 80
Gln Ala Cys Gln Ala Lys Pro Arg Phe Ser Gly Ala Ala Gly Gly Gly
85 90 95
Arg His Val Trp Ala Asp
100

<210> 3747
<211> 800
<212> DNA
<213> Homo sapiens

<400> 3747
cctaggcgag gcgctggcgc tggggtctgg ctggcgatcat gcgtgccacg ctctcctcta
60
cgcgccggac cctgggatgc tcttcggcgc catcccgctg cgctacgcca tactggtgag
120

aagggggcgc gcccgccac tttctgctg agccccgcac cctctctggt ggtctctct
 180
 ggggcgcccc tgccaatccc cgttcccc tcccgcagat gcagatgcgc ttcgatggac
 240
 gcttgggctt ccccgccgga ttcgtggaca cgcaggacag aagcctagag gacgggctga
 300
 accgcgagct gcgcgaggag ctgggcgaag cggctgccgc tttccgcgtg gagcgcactg
 360
 actaccgcag ctcccacgtc ggggtcaggg ccacgcgttg tggcccaatt ctatgccaa
 420
 cgtctgacgc tcgaggagct gttggctgtg gaggccggcg caacacgcgc caaggaccac
 480
 gggctggagg tgggaccagc ctgggactct gtccctttcc caatttcctc ttctcccaaa
 540
 gctttctctc ccccaagaaa gcacccctgg agaaaagtct ttgccctct gaccttggcc
 600
 tctcccccagc tttcttggtg gagttgggat cgtgatcctc tatactctga attagtactg
 660
 ccaacctggg ctttctgtaa aggtctttcc caccctttac caggagagat cctttctaga
 720
 acacactcat ccattgtctc ctgctgttcc ctattgacag tgtgatagat tatcacatta
 780
 tctaggtgtg gcaacctagg
 800

<210> 3748
 <211> 138
 <212> PRT
 <213> Homo sapiens

<400> 3748
 Met Gln Met Arg Phe Asp Gly Arg Leu Gly Phe Pro Gly Gly Phe Val
 1 5 10 15
 Asp Thr Gln Asp Arg Ser Leu Glu Asp Gly Leu Asn Arg Glu Leu Arg
 20 25 30
 Glu Glu Leu Gly Glu Ala Ala Ala Phe Arg Val Glu Arg Thr Asp
 35 40 45
 Tyr Arg Ser Ser His Val Gly Val Arg Ala Thr Arg Cys Gly Pro Leu
 50 55 60
 Leu Cys Gln Ala Ser Asp Ala Arg Gly Ala Val Gly Cys Gly Gly Arg
 65 70 75 80
 Arg Asn Thr Arg Gln Gly Pro Arg Ala Gly Gly Gly Thr Ser Leu Gly
 85 90 95
 Leu Cys Pro Phe Pro Asn Phe Leu Phe Ser Gln Ser Phe Leu Ser Pro
 100 105 110
 Lys Lys Ala Ser Leu Glu Lys Ser Leu Cys Pro Ser Asp Leu Ala Leu
 115 120 125
 Ser Pro Ala Phe Leu Val Glu Leu Gly Ser
 130 135

<210> 3749
 <211> 648
 <212> DNA
 <213> Homo sapiens

<400> 3749
 cgcgcccccct gggaggatcc tgccaagtgg gtgatggaca catatccatg ggcagccagc
 60
 ccacaacagc acgagtggcc tcccctgctg cagttacggc ctgaggatgt cggcttcgac
 120
 ggctactcca tgccctggga gggatcgaca agcaagcaga tgccccccag tgatgctgaa
 180
 ggtgaccgcg tgatgaacat gctgatgagg ctgcaggagg cagccaacta ctccagcccc
 240
 cagagctatg acagcgactc caacagcaac agccatcacg atgacatctt ggactcctct
 300
 ttggagtcca ctctgtgaca ggggcccgga gccagcgcc ctctcttctt cctcaccgca
 360
 ttccacctgc atccccaca tcacctgaa gatgacttcc tgagccagcc cccagccaca
 420
 gccttagagc tgcggaaca ccgagacccc cgtccttca gcctcgacct ggggtcaggc
 480
 atcccgggcc agctgcctgc ggaccgcttc ctccacagc gagaactgca ctaccttctg
 540
 ttgtacttta attattgttt tgccttggtg ctgtgacctc cctaagacac tgaagatact
 600
 ttcgggaaa ggatcatcgc cyttgaaatg aaaaaaaaaa aaaaaaaa
 648

<210> 3750
 <211> 105
 <212> PRT
 <213> Homo sapiens

<400> 3750
 Arg Ala Pro Trp Glu Asp Pro Ala Lys Trp Val Met Asp Thr Tyr Pro
 1 5 10 15
 Trp Ala Ala Ser Pro Gln Gln His Glu Trp Pro Pro Leu Leu Gln Leu
 20 25 30
 Arg Pro Glu Asp Val Gly Phe Asp Gly Tyr Ser Met Pro Arg Glu Gly
 35 40 45
 Ser Thr Ser Lys Gln Met Pro Pro Ser Asp Ala Glu Gly Asp Pro Leu
 50 55 60
 Met Asn Met Leu Met Arg Leu Gln Glu Ala Ala Asn Tyr Ser Ser Pro
 65 70 75 80
 Gln Ser Tyr Asp Ser Asp Ser Asn Ser Asn Ser His His Asp Asp Ile
 85 90 95
 Leu Asp Ser Ser Leu Glu Ser Thr Leu
 100 105

<210> 3751
 <211> 554
 <212> DNA
 <213> Homo sapiens

<400> 3751
 gcgcgcctgt ctgccctcgc acgtgcgctg gcaggggcgc cgccctgccc tcaccatgga
 60

cctggccccg ctgctgctcg cggctcggtc gccccgagcg gggccaaggg cgtttcttac
 120
 acgcaggggc agagtccgga gccgcggacc cgcgaggtat ttctactacg tggaccacca
 180
 gggccagctt ttcctggatg attccaaaat gaagaatttc atcacctgct tcaaagaccc
 240
 gcagttctcg gtcaccttct tctcccgctt gagacccaac cgcagcgggc gctacgaggg
 300
 cgctttcccc ttcctctcgc cctgcggcag agagcgcaac ttcctgctcg gcgaggaccg
 360
 gccggtgggc ttcacgcacc tgctgaccgc ggaccacggg cctccgcgcc tctcctactg
 420
 cggcgggtggc gaggccctgg ccgtgccctt cgagccggcg cgcctgctgc cctgggccgc
 480
 caacgggcgc ctgtaccacc cggcgccgga gcgtgcgggc ggctgtgggc tgggtgcgcc
 540
 ttcgccccctg gcc
 554

<210> 3752
 <211> 66
 <212> PRT
 <213> Homo sapiens

<400> 3752
 Ala Arg Leu Ser Ala Leu Ala Arg Ala Leu Ala Gly Pro Pro Pro Arg
 1 5 10 15
 Pro His His Gly Pro Gly Pro Ala Ala Ala Arg Gly Ser Val Ala Pro
 20 25 30
 Ser Gly Ala Lys Gly Val Ser Tyr Thr Gln Gly Gln Ser Pro Glu Pro
 35 40 45
 Arg Thr Arg Glu Val Phe Leu Leu Arg Gly Pro Pro Gly Pro Ala Phe
 50 55 60
 Pro Gly
 65

<210> 3753
 <211> 1426
 <212> DNA
 <213> Homo sapiens

<400> 3753
 nnaattcgga acaggtgcag tacttgctct aactttgccg cagctgcctc cttctctctg
 60
 gaaccacactc tcttaacca ccccgagag gcggagagaa tgtgggagca cttcagagag
 120
 gcctaggctc cgagatcgg gccatctggg ctctgaaagc aaattagttt tccaactcat
 180
 gtctggctcc ggcgttaccc agacgcctgg aaggctcctc ctgcagtctg atcaccattt
 240
 ttctgctgc actgaccaat cagctccctt tggccttcaa cctcgggaat gatggattag
 300
 gggagtctag aaatggacga agccctagaa acgcagctga agacagagcag aggacgcttc
 360

tcggctacag aatccctccc caccttggag ctcttatctc aggtggacat ggactgcagg
 420
 gtccacatgc gacccatcgg cctgacgtgg gtgctgcaac tgaccttggc atggatcctg
 480
 ctagaagcct gtggagggag cgcgccctc caagccaggt cccagcaaca ccatgggctg
 540
 gcagctgac tgaggcaaagg caagctgcac ctggcaggac cttgttgtcc ctcagagatg
 600
 gacacaacag agacatcggg ccctggaaac catccagaac gctgtggagt gccgagccct
 660
 gaatgcgaat ccttcctgga acacctcaa cgtgcccttc gcagtcgctt ccgctgcgg
 720
 ctattggggg tacgccaggc acagccgctc tgcgaggagc tctgccaggc ctggttcgcc
 780
 aactgcgaag atgatatcac ctgcgcccg acttggtcc cactctcaga aaaaaggggg
 840
 tgtgagccca gctgccttac ctatggacag accttcgcag acgggacgga ctttgcgcg
 900
 tcggctctgg gccacgccct accggtgggt gctcctggag ccggtcactg cttcaacatc
 960
 tccatctccg cggtagctcg tcccagacca ggacgacggg gccgggaagc tccctcccg
 1020
 cgttcccga gccctgcac ctccatcctg gacgctgcgg gcagcgggag tggcagtgga
 1080
 agcggcagcg gccctagcg gacgcgtggc cctgagttgg gggagcgacc cttccccag
 1140
 cccgccccct caggacaccc agaaccaccc cctcgtcct ctcggccttc tgtaatatgt
 1200
 ttgagatgtc tgtccctcct ccctggagct ccagagaccc acccctctcc aggttatccc
 1260
 agaaatgacc caactctctc acttttccct ctccccttg aataaagtcg ccagctaaaa
 1320
 aaaaagtcca tgtccacctg agataagagc tggtggctgg attggggggt ccacatgcga
 1380
 cccatcggcc tgacgtgggt gctgcaactg acctcgcat ggatcc
 1426

<210> 3754

<211> 261

<212> PRT

<213> Homo sapiens

<400> 3754

Met	Asp	Glu	Ala	Leu	Glu	Thr	Gln	Leu	Lys	Thr	Ser	Arg	Gly	Arg	Phe
1				5				10					15		
Ser	Ala	Thr	Glu	Ser	Leu	Pro	Thr	Leu	Glu	Leu	Leu	Ser	Gln	Val	Asp
			20					25					30		
Met	Asp	Cys	Arg	Val	His	Met	Arg	Pro	Ile	Gly	Leu	Thr	Trp	Val	Leu
		35					40					45			
Gln	Leu	Thr	Leu	Ala	Trp	Ile	Leu	Leu	Glu	Ala	Cys	Gly	Gly	Ser	Arg
		50					55				60				
Pro	Leu	Gln	Ala	Arg	Ser	Gln	Gln	His	His	Gly	Leu	Ala	Ala	Asp	Leu
65					70					75				80	
Gly	Lys	Gly	Lys	Leu	His	Leu	Ala	Gly	Pro	Cys	Cys	Pro	Ser	Glu	Met

```
<210> 3755
<211> 3149
<212> DNA
<213> Homo sapiens
```

```

<400> 3755
atgaatctct gttccaaatg ctttgctgat tttcaaaaga aacagccaga cgatgattcc
60
gctccaagta caagtaacag ccaatcagat ttgttttccg aagagaccac cagtgacaac
120
aacaatacct cgataaccac gccaaactctt agtcccagcc agcagccgct tccgacagaa
180
ctgaatgtaa cttcaccgag taaagaggag tgtggggccat gcacagacac agctcatgtc
240
tcattaatca caccaacaaa aagatcctgt ggtacagatt cacagtctga gaatgaggct
300
tcaccagtaa aacggccacg actacttgag aatacggaac ggtccgagga aaccagtcga
360
tctaaacaga agagtcgacg tcggtgcttc cagtgccaaa ccaaactgga gctgggtgcag
420
caggaattgg gatcgtgtcg ctgcggttat gtgttctgta tgttacatcg cctccccgag
480
cagcacgact gcacattcga ccacatgggc cgtggccggg aggaagccat catgaaaatg
540
gtgaagctgg accggaaaagt ggggcgctcc tgccagcgca tcggggaggg gtgctcctga
600
aggccaggca tggccaccac gtgacgctgt tcttagttca ctaatgttag ccttatttag
660
gacaaagtca gccagacacc ttgtactggg cacgcgtcag actgcagcca gtccgtttcc
720

```

tttcttttagc cagccatcct ggtactgtag tttaggggtt gatgggtggtt gaaattgatt
780
tctggctggt tactaagggtg cctgctagcc attgtataaa attaaaacat gaagaatatt
840
ttttttttga gcatggctag tggattttaaa acaacacata cctgtcactg ctggagtcaa
900
acttataaaa agccttaagt ggaaagtgtt ccagacggag actctgagtt aatagaggag
960
tagaagctgg tgttaaagtt cccacgacgc acatggcttt gccagaaact ctgtttaatg
1020
atcggccttt cacctcttca cttatcctta gtcccagtag ccaggatacc tgatggccac
1080
gtgtgccttg gccacgggag gctgctgaga ttggccacgt ggctgggctg ggtgggtggc
1140
tcactctccc acagagctgg aaatgggggg tgggggacag attcttacgg aaattttttt
1200
acctgacttg ctatgaaaaa actcatcaca caagaagaga aacagtaacc tcactttgaa
1260
aattagctcc actcaagact agtccacgaa cgagaccgc cttttctaca caggatccaa
1320
ggtcacgaga agcagccaga gtgccccgcc tccgccggt ctggtctgcc attcgccagt
1380
gcagggatct ggcacggacc agatgtggcg aatggcagca cagcgcggtg gctgggtctg
1440
cacactggcc tctgcagcca gatttctata ttgggagttt tttaaaaaga catttcatag
1500
ccaacaagaa tcagtagaag tgctgggagc agcagctggg gaagctgccg cccacgggt
1560
ctgccccttc cagctggagc cgcccgtgcc tccaggggcc aagaggatga tgctgtggcc
1620
tccattctcg tttctatgca gcccatagt ccaaggacac ccagtccaca tctaccatat
1680
agcaagtta gtaaggaag gcagcatagc tcccaggac agtgggtttg gatctgtcta
1740
gaacagcgggt ttgtggctgt ggcccagctc cgagagtgat atttgctctg gtaggtgagg
1800
gcctgagggt acatttctcc acctgtgcc cctcatgttc acagaggatt tcagcagctg
1860
caactgcgca cgccaggtgg ggaaggggtg ggggtggcct ggttgccca tgtaggaaa
1920
tcactaccag tcaggtgggg ctggggctg gtggacagga tcaggattcc cttgaaagcc
1980
caggcagggt gagcagtcct agtggctcta gtgccgcatc agatccaggt gggtagggg
2040
aggaggcccc tggggaggca gcgtggatct gccacacat aggctactgg aatagttaa
2100
cccagcaact ttccttttta taaaacaaca aatggttcaa ctctgtctgc aaattaacag
2160
ctgaacacct gcaactgcaa atgttttttg atccgacgta ctgaaatagg aagtcatgct
2220
cttcccacc tccaccacc agagtgaac ccgctgcaaa atccccagcc ttaattcttg
2280
cttcaggacc cagaccggtg tcttgtctta gggcaaccca gggcagagg gccaggctg
2340

cccagcggtt accactgctg tcaagccaca gcccttgccc accatacggg ccatectcag
 2400
 tgaggcagcc ccccataggc ttccgccaag ctctgggtccc gaagaggctg tgcgagccct
 2460
 tcccggccct cccagggccc ccccgccccc tctctgcct gctgcgtgga ggcagccatg
 2520
 ggaaggagcc caggggagct ggcctggggg agcgaagccc atgttcgctt cctgacttag
 2580
 agctgggggg ggtggggggg ggggcttggt cccctgcagt atctgttctg tgaagtttgt
 2640
 taaatgtaag gaaagcttaa attcttgtat ctttaaaaga gaaaatctta tttaacctt
 2700
 ttgtgttcta gatttactta cacacatagc ctagagctca gttttagttt taacattgtg
 2760
 aaaatattaa aagaatcttg taactttatt cttttttctc ctgctgaaaa aaaaaattaa
 2820
 accaatcgta tgaaagtttg gttttcttgt ttcacccctt ctctaagtg cccctgggt
 2880
 tgctgggaaa actgacccat ctccctggcc agggctggaa agagatgggg gcctgtgtgc
 2940
 agagaccgtc tgcagtactt ggaggcactc gtccagttag tgtccaggct aaacagccgc
 3000
 ttccttgctt tctgttgga gcctctgccc tgggaagctg cgggactggc cttggggtaa
 3060
 aggtgggtct gcagggccaa gcctgtgcca gcagccagga ggttacacac tgggggggat
 3120
 cagaaaacga gccccagccc tgagggccc
 3149

<210> 3756

<211> 199

<212> PRT

<213> Homo sapiens

<400> 3756

Met	Asn	Leu	Cys	Ser	Lys	Cys	Phe	Ala	Asp	Phe	Gln	Lys	Lys	Gln	Pro
1			5						10					15	
Asp	Asp	Asp	Ser	Ala	Pro	Ser	Thr	Ser	Asn	Ser	Gln	Ser	Asp	Leu	Phe
			20					25					30		
Ser	Glu	Glu	Thr	Thr	Ser	Asp	Asn	Asn	Asn	Thr	Ser	Ile	Thr	Thr	Pro
			35				40					45			
Thr	Leu	Ser	Pro	Ser	Gln	Gln	Pro	Leu	Pro	Thr	Glu	Leu	Asn	Val	Thr
			50			55					60				
Ser	Pro	Ser	Lys	Glu	Glu	Cys	Gly	Pro	Cys	Thr	Asp	Thr	Ala	His	Val
65				70						75				80	
Ser	Leu	Ile	Thr	Pro	Thr	Lys	Arg	Ser	Cys	Gly	Thr	Asp	Ser	Gln	Ser
			85					90						95	
Glu	Asn	Glu	Ala	Ser	Pro	Val	Lys	Arg	Pro	Arg	Leu	Leu	Glu	Asn	Thr
			100				105						110		
Glu	Arg	Ser	Glu	Glu	Thr	Ser	Arg	Ser	Lys	Gln	Lys	Ser	Arg	Arg	Arg
			115			120						125			
Cys	Phe	Gln	Cys	Gln	Thr	Lys	Leu	Glu	Leu	Val	Gln	Gln	Glu	Leu	Gly
			130			135					140				
Ser	Cys	Arg	Cys	Gly	Tyr	Val	Phe	Cys	Met	Leu	His	Arg	Leu	Pro	Glu

```
<210> 3758
<211> 199
<212> PRT
```

<213> Homo sapiens

<400> 3758

```

Arg Leu Ala Gly Ala Ala Ser Ser Lys Ser Cys Arg Asn Trp Arg Ala
 1           5           10           15
Ala Val Asp Leu Cys Gly Arg Leu Leu Thr Ala His Gly Gln Gly Tyr
      20           25           30
Gly Lys Ser Gly Leu Leu Thr Ser His Thr Thr Asp Ser Leu Gln Leu
      35           40           45
Trp Phe Val Arg Leu Ala Leu Leu Val Lys Leu Gly Leu Phe Gln Asn
      50           55           60
Ala Glu Met Glu Phe Glu Pro Phe Gly Asn Leu Asp Gln Pro Asp Leu
65           70           75           80
Tyr Ser Glu Tyr Tyr Pro His Val Tyr Pro Gly Arg Arg Gly Ser Met
      85           90           95
Val Pro Phe Ser Met Arg Ile Leu His Ala Glu Leu Gln Gln Tyr Leu
      100          105          110
Gly Asn Pro Gln Glu Ser Leu Asp Arg Leu His Lys Val Lys Thr Val
      115          120          125
Cys Ser Lys Val Gly Gly Ala Val Ile Leu Pro Cys His Gly Glu Asn
      130          135          140
Met Pro Ser Thr Pro Ser Pro Gln Asp Met Pro Val Leu Phe Pro Ala
145          150          155          160
Arg Pro Ala Pro Cys Thr Ile Ala Ala Ser Ala Phe Arg Arg Leu Gly
      165          170          175
Asp Pro Gly Leu Cys Gly Leu Val Val Val Ala Leu Ala Glu Ile Phe
      180          185          190
Phe Arg Asp Gly Lys Ser Phe
      195

```

<210> 3759

<211> 830

<212> DNA

<213> Homo sapiens

<400> 3759

```

ngtcgaatat ccatgcagac tagatacggt ctttaagaaac agcaataaag ctctctatgg
60
tctcatccag aagtgtaaaa acagatatag tgccttcaac taccgggcaa caggagaaga
120
agagcaaagg caggcggacg agctcctgga aaaaattgag agcatggtgc atcagaatgg
180
gaacaagcat tgtgttttca gagaaaaaga aaccctgaac attgtccttg tggggagaag
240
cgggactggg aagagtgcga ccgggaactc tatectgggg agcctcgtct tcacctctcg
300
gtcccgggcc cagccagtca ccaagaccag ccagagtggc aggaggacat gggacggaca
360
ggaggtggtg gttgtggaca cccttccttc aaccagatgc tggatgtcaa aggacccatc
420
ccggttaaaa gaggaggtca agcgctgttt gtcctgctgt gaaaaagggg acacattttt
480
gtcctggtgt tccagctggg acgattcact gaagaggaca aaacagctgt ggcgaaactg
540

```

gaggccatct ttggagcaga ctttacgaaa tacgcgatta tgctgttcac ccggaaggaa
 600
 gacctagggg cggggaattt ggaagacttc atgaagaact cagataacaa agcccttcgg
 660
 cgcatttttaa aaaagtgggg ggggagagtt tgtgctttta acaacaaaga aacaggccag
 720
 gcccaggaaa cccaggtgaa agctctttta acaaagggtca atgatctgag aaaagaaagt
 780
 gggtggtccg ggtatcccca tacacaggag aacgtcagcc cttcacgcgt
 830

<210> 3760

<211> 100

<212> PRT

<213> Homo sapiens

<400> 3760

Glu	His	Gly	Ala	Ser	Glu	Trp	Glu	Gln	Ala	Leu	Cys	Phe	Gln	Arg	Lys
1				5					10					15	
Arg	Asn	Pro	Glu	His	Cys	Pro	Cys	Gly	Glu	Lys	Arg	Asp	Trp	Glu	Glu
			20					25					30		
Cys	Asp	Arg	Glu	Leu	Tyr	Pro	Gly	Glu	Pro	Arg	Leu	His	Leu	Ser	Ala
			35					40					45		
Pro	Gly	Pro	Ala	Ser	His	Gln	Asp	Gln	Pro	Glu	Trp	Gln	Glu	Asp	Met
			50			55					60				
Gly	Arg	Thr	Gly	Gly	Gly	Gly	Cys	Gly	His	Pro	Ser	Phe	Asn	Gln	Met
65					70					75				80	
Leu	Asp	Val	Lys	Gly	Pro	Ile	Pro	Val	Lys	Arg	Gly	Gly	Gln	Ala	Leu
				85					90					95	
Phe	Val	Leu	Leu												
															100

<210> 3761

<211> 458

<212> DNA

<213> Homo sapiens

<400> 3761

acgcgtgcag gtggcaccga gcgcctcag gtgcgtaccc cgcccccgcc gccgacgccg
 60
 ccgacgccgc cattaagggc gggttgcctt tcggaacgtc ctctctctga gggcctgggg
 120
 aaggagggcc gcccgccgc agcgggaggt ggcccccgcc gacaccccg ccgccgagg
 180
 cgaggcacc ccgaaccccg atccctgctg gcaggaccag aggtgtgagg gtggggggcg
 240
 ggaagccttg ccgcgggggc aatggtcgta cgcacggagc gcacatccct ctcttctctg
 300
 attggccgag cgggggtgtg cgtgatgcc cgtccgccc gtcgtacgtg gggcgctcgc
 360
 gctgcgtgca gacgcgcttg attggtaga taagggggcg ggggcccgcg ctgttaccag
 420
 gcaactgcgc cccggatccg cccctgacg tcacgcgt
 458

<210> 3762
 <211> 75
 <212> PRT
 <213> Homo sapiens

<400> 3762
 Thr Arg Ala Gly Gly Thr Gln Arg Pro Gln Val Arg Thr Pro Pro Pro
 1 5 10 15
 Pro Pro Thr Pro Pro Thr Pro Pro Leu Arg Ala Gly Cys Leu Ser Glu
 20 25 30
 Arg Pro Pro Pro Glu Gly Leu Gly Lys Gly Gly Arg Pro Ala Ala Ala
 35 40 45
 Gly Gly Gly Pro Pro Gly His Pro Gly Ala Pro Arg Arg Gly Thr Pro
 50 55 60
 Glu Pro Arg Ser Leu Leu Ala Gly Pro Glu Val
 65 70 75

<210> 3763
 <211> 1340
 <212> DNA
 <213> Homo sapiens

<400> 3763
 nnggcgtccg ctctccccc tcgcggtcgg tagagctggc tgcgccgagc cccctgcacg
 60
 ctgcacatgg ggcgcctgac ggaagcggcg gcagcgggca gcggctctcg ggctgcaggc
 120
 tgggcagggt cccctccac gctcctgccg ctgtctcca cgtccccag gtgcgcggcc
 180
 accatggcgt ccagcgacga ggacggcacc aacggcggcg cctcggagge cggcgaggac
 240
 cgggaggctc ccggcaagcg gaggcgctg gggttcttgg ccaccgctg gtcaccttc
 300
 tacgacatcg ccatgaccgc ggggtggttg gttctagcta ttgccatgg acgtttttat
 360
 atggaaaagg gaacacacag agggttatat aaaagtattc agaagacact taaatttttc
 420
 cagacatttg ccttgcttga gatagttcac tgtttaattg gaattgtacc tacttctgtg
 480
 attgtgactg gggccaagt gagctcaaga atctttatgg tgtggctcat tactcacagt
 540
 ataaaaccaa tccagaatga agagagtgtg gtgctttttc tggcgcgtg gactgtgaca
 600
 gagatcactc gctattcctt ctacacattc agccttcttg accacttgc atacttcatt
 660
 aaatgggcca gatataattt ttttatcatt ttatatcctg ttggagttgc tggatgaactt
 720
 cttacaatat acgctgcctt gccgtatgtg aagaaaacag gaatgttttc aataagactt
 780
 cctaacaat acaatgtctc ttttgactac tattattttc ttcttataac catggcatca
 840
 tatatacctt tgtttccaca actctatttt catatgttac gtcaaagaag aaagggtgctt
 900

catggagagg tgattgtaga aaaggatgat taaatgatct ctgcaaaciaa ggtgcttttt
 960
 ccagaataac caagattacc tgagtccaag ttttaataac aagaataaac aactttgtga
 1020
 aatatcatgg attgtatggg ttcttaaaat ataacttgag acacgtggta ttgccagta
 1080
 tttgtgttcc tcttgtgcca gatctatctt ttacaagaac tgtgccaata tcagtaactt
 1140
 ttgggtaggt attgattatt aggaaaataa ttaggtgtat tatctggggg aaaaaaaaaac
 1200
 ttttgctaag ttttttttga aacatgctca agctttttta aatcaatatt tagaaattag
 1260
 tttaatgatt tactattata cctgctagtg atatttatgt gatatttaca aatgaaaatt
 1320
 aatgcaaaat ttttaacaaa
 1340

<210> 3764

<211> 288

<212> PRT

<213> Homo sapiens

<400> 3764

Met	Gly	Arg	Leu	Thr	Glu	Ala	Ala	Ala	Ala	Gly	Ser	Gly	Ser	Arg	Ala	15
1				5					10							
Ala	Gly	Trp	Ala	Gly	Ser	Pro	Pro	Thr	Leu	Leu	Pro	Leu	Ser	Pro	Thr	30
			20					25								
Ser	Pro	Arg	Cys	Ala	Ala	Thr	Met	Ala	Ser	Ser	Asp	Glu	Asp	Gly	Thr	45
			35				40									
Asn	Gly	Gly	Ala	Ser	Glu	Ala	Gly	Glu	Asp	Arg	Glu	Ala	Pro	Gly	Lys	60
			50			55					60					
Arg	Arg	Arg	Leu	Gly	Phe	Leu	Ala	Thr	Ala	Trp	Leu	Thr	Phe	Tyr	Asp	80
65					70					75						
Ile	Ala	Met	Thr	Ala	Gly	Trp	Leu	Val	Leu	Ala	Ile	Ala	Met	Val	Arg	95
				85					90							
Phe	Tyr	Met	Glu	Lys	Gly	Thr	His	Arg	Gly	Leu	Tyr	Lys	Ser	Ile	Gln	110
			100				105									
Lys	Thr	Leu	Lys	Phe	Phe	Gln	Thr	Phe	Ala	Leu	Leu	Glu	Ile	Val	His	125
			115				120									
Cys	Leu	Ile	Gly	Ile	Val	Pro	Thr	Ser	Val	Ile	Val	Thr	Gly	Val	Gln	140
			130			135					140					
Val	Ser	Ser	Arg	Ile	Phe	Met	Val	Trp	Leu	Ile	Thr	His	Ser	Ile	Lys	160
145				150						155						
Pro	Ile	Gln	Asn	Glu	Glu	Ser	Val	Val	Leu	Phe	Leu	Val	Ala	Trp	Thr	175
				165					170							
Val	Thr	Glu	Ile	Thr	Arg	Tyr	Ser	Phe	Tyr	Thr	Phe	Ser	Leu	Leu	Asp	190
			180					185								
His	Leu	Pro	Tyr	Phe	Ile	Lys	Trp	Ala	Arg	Tyr	Asn	Phe	Phe	Ile	Ile	205
		195				200										
Leu	Tyr	Pro	Val	Gly	Val	Ala	Gly	Glu	Leu	Leu	Thr	Ile	Tyr	Ala	Ala	220
			210			215										
Leu	Pro	Tyr	Val	Lys	Lys	Thr	Gly	Met	Phe	Ser	Ile	Arg	Leu	Pro	Asn	240
225				230						235						
Lys	Tyr	Asn	Val	Ser	Phe	Asp	Tyr	Tyr	Tyr	Phe	Leu	Leu	Ile	Thr	Met	

aacaatttca gctggcatgc atccacagag tgctttctgt gctcttgctg cagcaaatgc
1320
ctcattgggc agaagtcat gccagtagaa gggatgggtt tctgttcagt ggaatgtaag
1380
aagaggatgt cttaggagga gggcaccag aagtatcgag ccatagctat ccaaagtgg
1440
ctgcatttct actgtaaaat gcaatttgaa aaaaataaaa cgcaaaaaaa gaaactgtaa
1500
aggaaaccaa gagattttgt ttaatttttt tggccatttt ttcttcatca attttttttc
1560
ggtctcaact tttaaacttg gtttaagcat ttgatttgta aaacagtaaa taattgtatc
1620
tttccatagc ttttcaaagt tgaaatcatt tttggaagct tggatctcat taaacttcat
1680
gtctctattc catttggtgc acacacttaa aagttagtgt actgaatgga aagatgagca
1740
ttcctagtgc tacacttctt ttttccccct catgtgtaa atgaaaagaa aactaaattt
1800
gccctaatac caaggcgcta cgtttattgc ctctcttat tcaactgacct ttgtaatgat
1860
acacagtga ttttttttga caaagagaaa tgcagtgtag tatgcagagc tgctgtttta
1920
atgccctatg catttactct ttcctgattt aggcagaggt ggcattttct ttattgcatt
1980
tctctatttt tttaatgtac cctaccttca gtattctctt tgtaagttgg tgacttgcat
2040
ctgtggcctt gaatatttta ttatcacatg tggcataaca gtatccacac ttttagttc
2100
tttatttttt tttttttatt ttgagcaatt ctctgcctc agcctcccaa atagctggga
2160
ttacagggtg atgccaccac acccagctaa tttttgtatt tttagtagag acagggttttc
2220
accatgtag ccaggctggg ctcaaactcc tgacctcaga tgatccgcct gccttggcct
2280
cccaaagtgc tgggattaca ggtgtgggag ccaccatgcc tgaccacac actttttact
2340
tgtatagatg atttttggct tggacataaa agccaagcca ccatttgct tttaatccaa
2400
agaacatgta tagtttttgt acccagagac tatgatttat attgattgca cttgcctgcc
2460
atgatttaga taagattttt tttgcatggg ttttattctt tctaatgga tctgtttta
2520
taatacttcc aagcctgtcc atggatatat caaatgtctt cacttgata tttcatggc
2580
taggtatttc taatgtttat tcttccctgt gtacttctac acatagctat gcactatgaa
2640
aattaaatgg aatgaatgat atgtatatta ctattccat ttaattttca tagtgcatag
2700
ctatgaaaat taaatggaat gaatgatatg tatattactc aaaataaagt ttctttcact
2760
ttaa
2764

<210> 3766

<211> 464

<212> PRT

<213> Homo sapiens

<400> 3766

```

Xaa Val Ala Val Glu Arg Arg Arg Gly Ser Ser Ala Gly Phe Pro Cys
 1           5           10           15
Ser Gln Arg Ser Arg Arg Pro Ala Glu Pro Gly Arg Gly Ile Pro Asp
      20           25           30
Arg Arg Arg Arg Gly Pro Ile Gly Arg Val Asn Met Asp Leu Glu Asn
      35           40           45
Lys Val Lys Lys Met Gly Leu Gly His Glu Gln Gly Phe Gly Ala Pro
      50           55           60
Cys Leu Lys Cys Lys Glu Lys Cys Glu Gly Phe Glu Leu His Phe Trp
 65           70           75           80
Arg Lys Ile Cys Arg Asn Cys Lys Cys Gly Gln Glu Glu His Asp Val
      85           90           95
Leu Leu Ser Asn Glu Glu Asp Arg Lys Val Gly Lys Leu Phe Glu Asp
      100          105          110
Thr Lys Tyr Thr Thr Leu Ile Ala Lys Leu Lys Ser Asp Gly Ile Pro
      115          120          125
Met Tyr Lys Arg Asn Val Met Ile Leu Thr Asn Pro Val Ala Ala Lys
      130          135          140
Lys Asn Val Ser Ile Asn Thr Val Thr Tyr Glu Trp Ala Pro Pro Val
      145          150          155          160
Gln Asn Gln Ala Leu Ala Arg Gln Tyr Met Gln Met Leu Pro Lys Glu
      165          170          175
Lys Gln Pro Val Ala Gly Ser Glu Gly Ala Gln Tyr Arg Lys Lys Gln
      180          185          190
Leu Ala Lys Gln Leu Pro Ala His Asp Gln Asp Pro Ser Lys Cys His
      195          200          205
Glu Leu Ser Pro Arg Glu Val Lys Glu Met Glu Gln Phe Val Lys Lys
      210          215          220
Tyr Lys Ser Glu Ala Leu Gly Val Gly Asp Val Lys Leu Pro Cys Glu
      225          230          235          240
Met Asp Ala Gln Gly Pro Lys Gln Met Asn Ile Pro Gly Gly Asp Arg
      245          250          255
Ser Thr Pro Ala Ala Val Gly Ala Met Glu Asp Lys Ser Ala Glu His
      260          265          270
Lys Arg Thr Gln Tyr Ser Cys Tyr Cys Cys Lys Leu Ser Met Lys Glu
      275          280          285
Gly Asp Pro Ala Ile Tyr Ala Glu Arg Ala Gly Tyr Asp Lys Leu Trp
      290          295          300
His Pro Ala Cys Phe Val Cys Ser Thr Cys His Glu Leu Leu Val Asp
      305          310          315          320
Met Ile Tyr Phe Trp Lys Asn Glu Lys Leu Tyr Cys Gly Arg His Tyr
      325          330          335
Cys Asp Ser Glu Lys Pro Arg Cys Ala Gly Cys Asp Glu Leu Ile Phe
      340          345          350
Ser Asn Glu Tyr Thr Gln Ala Glu Asn Gln Asn Trp His Leu Lys His
      355          360          365
Phe Cys Cys Phe Asp Cys Asp Ser Ile Leu Ala Gly Glu Ile Tyr Val
      370          375          380
Met Val Asn Asp Lys Pro Val Cys Lys Pro Cys Tyr Val Lys Asn His

```

385		390		395		400									
Ala	Val	Val	Cys	Gln	Gly	Cys	His	Asn	Ala	Ile	Asp	Pro	Glu	Val	Gln
				405					410					415	
Arg	Val	Thr	Tyr	Asn	Asn	Phe	Ser	Trp	His	Ala	Ser	Thr	Glu	Cys	Phe
				420					425					430	
Leu	Cys	Ser	Cys	Cys	Ser	Lys	Cys	Leu	Ile	Gly	Gln	Lys	Phe	Met	Pro
			435				440					445			
Val	Glu	Gly	Met	Val	Phe	Cys	Ser	Val	Glu	Cys	Lys	Lys	Arg	Met	Ser
	450					455						460			

<210> 3767

<211> 2439

<212> DNA

<213> Homo sapiens

<400> 3767

```

nttttttta tagtttaatg tattttaata gcaagtata taccacgagg agcaaattggc
60
acatggaccc tccgtccttg ggggtggacag aaccaactgc tcctgtcact gtttcctacc
120
gggccagac acgcccaga gcccgcaca ggccagttgc tactgccagt cgtgaggcga
180
accacactgc tgacccaaag ccatgccggt tccaccatga gactgagtgt gggcacttgt
240
gagcgtgctt ctggggcgca caggcgtcct gacgggccga agtgagaatt ccagtgcctc
300
agtatagtat atacaatata attaggagag aaagaagcag gatatgaaa catacttttt
360
gttattggca tgaaaggcca tggtcctgtc catgtcccca gactgtgata agccagggtta
420
aactccagca cctgaaagggt gttctcacct gcagtgaatc tgtcgtgtgg ctgggtgagca
480
gcccgtcttt gccgtagccc tggccgtggg ctgtgaggag acgtccgcac aggtccactg
540
ctgccctcca gtttctgcag ctgattagct gtttcaatcc aacaaaagat tggtccactg
600
agtcggcatt taggacttgt ctctttgctg cagctttttc acccagaaag cgaagcatca
660
agtctttaac tgcattctcc tggatgttgt cgaacctgag gcccggcatt gtgaggttct
720
ccttgctccac gaacacggcg ccgcgctgct ggggtggccac ggcccgaggg gcccaggga
780
gctgcgcccc cggcgtcgcc agagccttcc gcgcacatcc aggcagtgtt tgcaggaggt
840
gacgaccctt ttgccaccgc cctgagcatg ggcgagatgg accggaggaa cgacgcctgg
900
cttcccgggc aggtacgcg tggagtctct cgggccgtgg ccaccagca gcgcggcgcc
960
gtgttcgtgg acaaggagaa cctcaccatg ccgggcctca ggttcgacaa catccaggga
1020
gatgcagtta aagacttgat gtttcgcttt ctgggtgaaa aagctgcagc aaagagacaa
1080
gtcctaaatg ccgactcagt ggaacaatct tttgttggat tgaaacagct aatcagctgc
1140

```

agaaactgga gggcagcagt ggacctgtgc ggacgtctcc tcacagccca cggccagggc
 1200
 tacggcaaga gcgggctgct caccagccac acgacagatt cactgcagct ctggtttgtc
 1260
 aggctggcac tactagtga gttgggcctt ttccagaatg ctgagatgga atttgaaccc
 1320
 ttcggaaatc ttgatcagcc agatctttat tacgagtact acccgcacgt gtaccctggg
 1380
 cgcaggggct ccatgggtccc cttctcgatg cgcattcttc acgcggagct tcagcagtac
 1440
 ctggggaacc cacaggagtc gctggataga ctgcacaagg tgaagactgt ctgcagcaag
 1500
 atcctggcca atttgagca aggcttagca gaagacggcg gcatgagcag cgtgactcag
 1560
 gagggcagac aagcctctat ccggctgtgg aggtcacgtc tgggcgggt gatgtactcc
 1620
 atggcaaact gtctgctcct gatgaaggat tatgtgctgg ccgtggaggc gtatcattcg
 1680
 gttatcaagt attaccaga gcaagagccc cagctgctca gcggcatcgg ccggatttcc
 1740
 ctccagattg gagacataaa aacagctgaa aagtattttc aagacgttga gaaagtaaca
 1800
 cagaaattag atggactaca gggtaaaatc atggttttga tgaacagcgc gttccttcac
 1860
 ctcgggcaga ataactttgc agaagccac aggttcttca cagagatctt aaggatggat
 1920
 ccaagaaacg cagtggccaa caacaacgt gccgtgtgtc tgctctacct gggcaagctc
 1980
 aaggactccc tgccgcagct ggaggccatg gtccagcagg accccaggca ctacctgcac
 2040
 gagagcgtgc tcttcaacct gaccaccatg tacgagctgg agtcctcacg gagcatgcag
 2100
 aagaaacagg ccctgctgga ggctgtgcc ggcaaggagg gggacagctt caacacacag
 2160
 tgctcaagc tggcctagct gcctccaaca cactacgtca gaaggaccg ggtctttgaa
 2220
 actgtgtctt gaagctaatt tattaatgtg acatggagga actcaataaa actccttttc
 2280
 tctttanttt tctaaagttt gactatgctg tgtcttattt tacatttctg tagatttatt
 2340
 gtgtttttta ttcactcagc ttcaatctgt atgtttatgt ctttcaccaa attggaaagt
 2400
 ttttcacttt gattatttga ttttatattg ctttgatca
 2439

<210> 3768

<211> 379

<212> PRT

<213> Homo sapiens

<400> 3768

Met Leu Arg Phe Leu Gly Glu Lys Ala Ala Ala Lys Arg Gln Val Leu
 1 5 10 15
 Asn Ala Asp Ser Val Glu Gln Ser Phe Val Gly Leu Lys Gln Leu Ile

```

                20                25                30
Ser Cys Arg Asn Trp Arg Ala Ala Val Asp Leu Cys Gly Arg Leu Leu
                35                40                45
Thr Ala His Gly Gln Gly Tyr Gly Lys Ser Gly Leu Leu Thr Ser His
                50                55                60
Thr Thr Asp Ser Leu Gln Leu Trp Phe Val Arg Leu Ala Leu Leu Val
        65                70                75                80
Lys Leu Gly Leu Phe Gln Asn Ala Glu Met Glu Phe Glu Pro Phe Gly
                85                90                95
Asn Leu Asp Gln Pro Asp Leu Tyr Tyr Glu Tyr Tyr Pro His Val Tyr
                100                105                110
Pro Gly Arg Arg Gly Ser Met Val Pro Phe Ser Met Arg Ile Leu His
                115                120                125
Ala Glu Leu Gln Gln Tyr Leu Gly Asn Pro Gln Glu Ser Leu Asp Arg
        130                135                140
Leu His Lys Val Lys Thr Val Cys Ser Lys Ile Leu Ala Asn Leu Glu
        145                150                155                160
Gln Gly Leu Ala Glu Asp Gly Gly Met Ser Ser Val Thr Gln Glu Gly
                165                170                175
Arg Gln Ala Ser Ile Arg Leu Trp Arg Ser Arg Leu Gly Arg Val Met
                180                185                190
Tyr Ser Met Ala Asn Cys Leu Leu Leu Met Lys Asp Tyr Val Leu Ala
                195                200                205
Val Glu Ala Tyr His Ser Val Ile Lys Tyr Tyr Pro Glu Gln Glu Pro
        210                215                220
Gln Leu Leu Ser Gly Ile Gly Arg Ile Ser Leu Gln Ile Gly Asp Ile
        225                230                235                240
Lys Thr Ala Glu Lys Tyr Phe Gln Asp Val Glu Lys Val Thr Gln Lys
                245                250                255
Leu Asp Gly Leu Gln Gly Lys Ile Met Val Leu Met Asn Ser Ala Phe
                260                265                270
Leu His Leu Gly Gln Asn Asn Phe Ala Glu Ala His Arg Phe Phe Thr
                275                280                285
Glu Ile Leu Arg Met Asp Pro Arg Asn Ala Val Ala Asn Asn Asn Ala
        290                295                300
Ala Val Cys Leu Leu Tyr Leu Gly Lys Leu Lys Asp Ser Leu Arg Gln
        305                310                315                320
Leu Glu Ala Met Val Gln Gln Asp Pro Arg His Tyr Leu His Glu Ser
                325                330                335
Val Leu Phe Asn Leu Thr Thr Met Tyr Glu Leu Glu Ser Ser Arg Ser
                340                345                350
Met Gln Lys Lys Gln Ala Leu Leu Glu Ala Val Ala Gly Lys Glu Gly
                355                360                365
Asp Ser Phe Asn Thr Gln Cys Leu Lys Leu Ala
        370                375

```

<210> 3769

<211> 1931

<212> DNA

<213> Homo sapiens

<400> 3769

nacgcgtgta cgtcatggag gatatcacat tcaacgtgaa gggtgcttca ggtgaatgca
60

atgaagacac tgaagtttac aacatcaccc tgtgtactgg ggatgaactc actctaattg
120
ggcaggcaga aatcctttat gcaaagacat tcaaggaaaa gtcacgactc aacacaatct
180
tcaaaaagat tgggaagctc aattccatca gcaagctggg aaaaggcaaa atgccgtgcc
240
tcatttgat gaatcaccgg accaacgaaa gcattagcct tccattccag tgcaagggca
300
gatttagcac ccgaagtccc ctggaacttc agatgcaaga gggcgaacac accatccgca
360
acattgtgga gaaaaccagg cttcctgtga atgtgactgt gccaaagcct ccaccgagaa
420
accatacga cctccacttc atccgtgagg ggcaccgcta taagtttgtg agcatccaga
480
ccaagacggt ggtggtttgc tgtgtgctgc ggaacaacaa gatcctcccc atgcacttcc
540
ctttgcactt gactgtcccc aagttcagcc tcccagaacc cctgggtgaag ggagagagct
600
ggcccgaac cctggtccca tcccgggcta ggtatctgcc aagaacagtt cgacatcgat
660
gagtattcac gggctgtccg tgatgtgaaa accgactgga atgaagaatg caagagcccc
720
aagaagggtc ggtgctctgg ccacaaccac gtgccaatt cgctcagcta cgcccgcgat
780
gagtcaccc agtccttcca ccgactctcg gtctgtgtgt atggcaacaa tctccatggc
840
aacagtgagg tgaaccttca tggttgcagg gacctggggg gagattgggc tccctttcct
900
catgacatcc tgccctatca ggactctgga gatagtggga ggcactacct tttcccagaa
960
gctagtgaag aatcagcagg catcccggga aagtcagaac ttccctacga agagctgtgg
1020
ctggaggaag gcaagcccag ccatacgcct ctactcgcct ctctgagcga gaagaacaga
1080
tgtgatcagt ttagagggtc tgtccgatcc aaatgtgcga cttctcctct tcccatccct
1140
gggactctgg gagcagcagt gaagtcttca gatactgccc tacctccacc tccagtgcct
1200
cccaaactcg aagccgtcag agaagaatgc cggctcctga acgccccacc tgttccaccc
1260
cgaagcgcaa agcctttgtc caccagtccc tccatccctc ctgcacagc caagccagcg
1320
cggcaacaga ctgcgtctcc cagccccacc ttgtcctact attcttcagg gctacacaac
1380
atcgtcacta aaactgacac aaatccttct gaaagcactc ctgtttcctg ctatccatgt
1440
aaccgagtga aaactgattc tgtggacctg aaatccccgt ttggaagtcc ttctgctgaa
1500
gctgtgtcct ctcggtcttc atggcctaac cattattcag gagcatcaga aagccagacc
1560
aggagtgact tcctgctgga tccaagcagg agttatagtt accctagaca aaagacgcca
1620
ggcacaccaa agagaaactg ccagcacct ttgattttg atggctgtga gtccttgccc
1680

agccccacta gccagtcac tgcagaattc agtagcagcg tctctggttg tcccaagtca
 1740
 gccagctact ctctggagag cacagatgtg aaatctcttg cagctggtgt gacaaagcag
 1800
 agtacgtcat gccctgcctt accccccagg gctccaaaac tagtggaaga gaaggctcgcc
 1860
 tccgaaacat ctcttttgcc tctgaaaatt gatggtgctg aggaagaccc caagtctggg
 1920
 tcaccagatc t
 1931

<210> 3770

<211> 447

<212> PRT

<213> Homo sapiens

<400> 3770

Arg	Glu	Arg	Ala	Gly	Pro	Lys	Pro	Trp	Ser	His	Pro	Gly	Leu	Gly	Ile
1			5					10					15		
Cys	Gln	Glu	Gln	Phe	Asp	Ile	Asp	Glu	Tyr	Ser	Arg	Ala	Val	Arg	Asp
	20						25					30			
Val	Lys	Thr	Asp	Trp	Asn	Glu	Glu	Cys	Lys	Ser	Pro	Lys	Lys	Gly	Arg
	35					40					45				
Cys	Ser	Gly	His	Asn	His	Val	Pro	Asn	Ser	Leu	Ser	Tyr	Ala	Arg	Asp
	50				55					60					
Glu	Leu	Thr	Gln	Ser	Phe	His	Arg	Leu	Ser	Val	Cys	Val	Tyr	Gly	Asn
65					70				75					80	
Asn	Leu	His	Gly	Asn	Ser	Glu	Val	Asn	Leu	His	Gly	Cys	Arg	Asp	Leu
			85					90					95		
Gly	Gly	Asp	Trp	Ala	Pro	Phe	Pro	His	Asp	Ile	Leu	Pro	Tyr	Gln	Asp
	100						105					110			
Ser	Gly	Asp	Ser	Gly	Ser	Asp	Tyr	Leu	Phe	Pro	Glu	Ala	Ser	Glu	Glu
	115					120				125					
Ser	Ala	Gly	Ile	Pro	Gly	Lys	Ser	Glu	Leu	Pro	Tyr	Glu	Glu	Leu	Trp
	130				135					140					
Leu	Glu	Glu	Gly	Lys	Pro	Ser	His	Gln	Pro	Leu	Thr	Arg	Ser	Leu	Ser
145					150				155					160	
Glu	Lys	Asn	Arg	Cys	Asp	Gln	Phe	Arg	Gly	Ser	Val	Arg	Ser	Lys	Cys
			165					170					175		
Ala	Thr	Ser	Pro	Leu	Pro	Ile	Pro	Gly	Thr	Leu	Gly	Ala	Ala	Val	Lys
	180							185				190			
Ser	Ser	Asp	Thr	Ala	Leu	Pro	Pro	Pro	Val	Pro	Pro	Lys	Ser	Glu	
	195					200				205					
Ala	Val	Arg	Glu	Glu	Cys	Arg	Leu	Leu	Asn	Ala	Pro	Pro	Val	Pro	Pro
	210				215					220					
Arg	Ser	Ala	Lys	Pro	Leu	Ser	Thr	Ser	Pro	Ser	Ile	Pro	Pro	Arg	Thr
225				230					235					240	
Val	Lys	Pro	Ala	Arg	Gln	Gln	Thr	Arg	Ser	Pro	Ser	Pro	Thr	Leu	Ser
			245					250					255		
Tyr	Tyr	Ser	Ser	Gly	Leu	His	Asn	Ile	Val	Thr	Lys	Thr	Asp	Thr	Asn
	260						265					270			
Pro	Ser	Glu	Ser	Thr	Pro	Val	Ser	Cys	Tyr	Pro	Cys	Asn	Arg	Val	Lys
	275					280						285			
Thr	Asp	Ser	Val	Asp	Leu	Lys	Ser	Pro	Phe	Gly	Ser	Pro	Ser	Ala	Glu

```

      290              295              300
Ala Val Ser Ser Arg Leu Ser Trp Pro Asn His Tyr Ser Gly Ala Ser
305              310              315              320
Glu Ser Gln Thr Arg Ser Asp Phe Leu Leu Asp Pro Ser Arg Ser Tyr
      325              330              335
Ser Tyr Pro Arg Gln Lys Thr Pro Gly Thr Pro Lys Arg Asn Cys Pro
      340              345              350
Ala Pro Phe Asp Phe Asp Gly Cys Glu Leu Leu Ala Ser Pro Thr Ser
      355              360              365
Pro Val Thr Ala Glu Phe Ser Ser Ser Val Ser Gly Cys Pro Lys Ser
      370              375              380
Ala Ser Tyr Ser Leu Glu Ser Thr Asp Val Lys Ser Leu Ala Ala Gly
385              390              395              400
Val Thr Lys Gln Ser Thr Ser Cys Pro Ala Leu Pro Pro Arg Ala Pro
      405              410              415
Lys Leu Val Glu Glu Lys Val Ala Ser Glu Thr Ser Pro Leu Pro Leu
      420              425              430
Lys Ile Asp Gly Ala Glu Glu Asp Pro Lys Ser Gly Ser Pro Asp
      435              440              445

```

<210> 3771

<211> 1514

<212> DNA

<213> Homo sapiens

<400> 3771

```

ttcactattc atgatagtg attcaaagaa tatactaccc gtaccaaacg tccgccctca
60
gttatattag gagtaaccaa cccttttttt gctaagacac tccagcactg gccacacatt
120
attcgaatag gagaccttaa acctacaagt gaaattccta agcagggttaa agtgaaaaaa
180
ctgaagaatc taaagactct ggattccaaa cctggagttt atacttcata taagccatat
240
ttaaatagag atgaagagat cataaaacaa ttacagaagg gtgtacaaca gaaacgtcct
300
tctgaggctc aaagtgttat tcttcgacgc tatttttttg aactgacaca aagtttcac
360
attccattag aaagatatgt ggcaagcttg atgcctttgc agaaaagtat ttccccatgg
420
aagagtccac ctcaattaag acagtttctt ccagaagaat ttatgaaaac acttgagaaa
480
acaggacctc agctaacctc tagaataaaa ggcgattgga ttggacttta ccggcatttc
540
ctaaagtctc caaattttga tggctggttt aagaccgga ggaaggaaat gacccaaaaa
600
ttggaggcac tccatctaga agctctttgt gaagaggact tacttctctg gatccagaaa
660
cacacagaag tagaaacagt agacctgtgc ttgaagctga aaaataagct gttgcaggct
720
gatcgagagc acttacctgt gaaacctgac actatggaaa agttacggac acacatagat
780
gccattatct tagcattgcc agaggacttg caaggcatat tgctcaaaac gggcatgaca
840

```

tgatatttgc caagattttc cagccaaaaa ggattatgca tcatgaagca tactgacatt
 900
 tcaaccagac gcacaaagga gatctctcag tggcagcgga gtggaaaatt gccatgaatg
 960
 ctagtacag ggtagaaaga ctgtattgta taaacagacc tttttagtgc attacttttt
 1020
 aaagtggata tctgtggtgg ttccacttta atactgaaac accgaaaggc atttctatat
 1080
 ttttaatcat gttctaaagt gctcttatga gagacttggtg ggccatcagt attagtgtatt
 1140
 tcatactgca gtgctggcat tgcagatatt tttttaaatt ggtgctgctt tgcccaatca
 1200
 tgttaaaact caggggggata taaaaataac attcacactg gctatcttct taagaacaga
 1260
 aagactgaac tgtcctatgg ttagaaggaa ttgatgctta ttagtgctt tctgttgccc
 1320
 tacatgtttc acagtccagc tgctagtctt gaagcttttc cttagcttca ttatgatacg
 1380
 taattttata aggtattctg ttgagtgtac attgttttaa aaaaaagttt cttgctaccc
 1440
 attgtgttta ttaatagaca tgatgggttt ttttcagttg tcatatagat tttcattatt
 1500
 ttcccttcac gcgt
 1514

<210> 3772

<211> 280

<212> PRT

<213> Homo sapiens

<400> 3772

Phe	Thr	Ile	His	Asp	Ser	Glu	Phe	Lys	Glu	Tyr	Thr	Thr	Arg	Thr	Gln
1				5					10					15	
Arg	Pro	Pro	Ser	Val	Ile	Leu	Gly	Val	Thr	Asn	Pro	Phe	Phe	Ala	Lys
			20					25					30		
Thr	Leu	Gln	His	Trp	Pro	His	Ile	Ile	Arg	Ile	Gly	Asp	Leu	Lys	Pro
	35						40					45			
Thr	Ser	Glu	Ile	Pro	Lys	Gln	Val	Lys	Val	Lys	Lys	Leu	Lys	Asn	Leu
	50					55					60				
Lys	Thr	Leu	Asp	Ser	Lys	Pro	Gly	Val	Tyr	Thr	Ser	Tyr	Lys	Pro	Tyr
65					70				75					80	
Leu	Asn	Arg	Asp	Glu	Glu	Ile	Ile	Lys	Gln	Leu	Gln	Lys	Gly	Val	Gln
			85						90					95	
Gln	Lys	Arg	Pro	Ser	Glu	Ala	Gln	Ser	Val	Ile	Leu	Arg	Arg	Tyr	Phe
			100					105					110		
Leu	Glu	Leu	Thr	Gln	Ser	Phe	Ile	Ile	Pro	Leu	Glu	Arg	Tyr	Val	Ala
	115						120					125			
Ser	Leu	Met	Pro	Leu	Gln	Lys	Ser	Ile	Ser	Pro	Trp	Lys	Ser	Pro	Pro
	130					135					140				
Gln	Leu	Arg	Gln	Phe	Leu	Pro	Glu	Glu	Phe	Met	Lys	Thr	Leu	Glu	Lys
145					150				155					160	
Thr	Gly	Pro	Gln	Leu	Thr	Ser	Arg	Ile	Lys	Gly	Asp	Trp	Ile	Gly	Leu
			165						170					175	
Tyr	Arg	His	Phe	Leu	Lys	Ser	Pro	Asn	Phe	Asp	Gly	Trp	Phe	Lys	Thr

										180						185						190		
Arg	Arg	Lys	Glu	Met	Thr	Gln	Lys	Leu	Glu	Ala	Leu	His	Leu	Glu	Ala									
						195			200			205												
Leu	Cys	Glu	Glu	Asp	Leu	Leu	Leu	Trp	Ile	Gln	Lys	His	Thr	Glu	Val									
						210			215			220												
Glu	Thr	Val	Asp	Leu	Val	Leu	Lys	Leu	Lys	Asn	Lys	Leu	Leu	Gln	Ala									
						225			230			235			240									
Asp	Arg	Glu	His	Leu	Pro	Val	Lys	Pro	Asp	Thr	Met	Glu	Lys	Leu	Arg									
						245			250			255												
Thr	His	Ile	Asp	Ala	Ile	Ile	Leu	Ala	Leu	Pro	Glu	Asp	Leu	Gln	Gly									
						260			265			270												
Ile	Leu	Leu	Lys	Thr	Gly	Met	Thr																	
						275			280															

<210> 3773

'<211> 2664

<212> DNA

<213> Homo sapiens

<400> 3773

gagcccgga ggcgttcagg gaagcgggc cagcctggg cggccacca tttccgggc
60

gccgcggcgg cgcgactcgc gggcagcggc ccctcagtgc gcccagccgg gccccgaac
120

gccgggagca tgagcgcggg ctcgagcgc ggggcggcgg caacccccgg gggtttgccc
180

gcgccctgcg cctcgaagggt ggagctgcgg ctcagctgcc ggcacctgct ggaccgcgac
240

ccgctcacca agtccgaccc cagcgtggcg ttgctgcagc aggcgcaggg ccagtggggtg
300

caggtgggca gaaccgaggt ggtccggagc agcctgcac cctgtttctc caaggtcttc
360

acgggtggact actacttcga ggaggtgcag aggctgcgct ttgaggtgta cgacacgcac
420

gggccagcg gcttcagctg tcaggaggac gatttcctgg ggggcatgga gtgcaccctg

gggcagccag cccaaaagtg gcttctgcaa gtcgtgatga gagtgtctgt tgatgtgctg

ggccctgctg gacactgcgc taagcacttc ctgtgctgca cggaatcttc acaccttgcc

aggacgggtc cttctttttt attgaggtat gatgacctct gcctcccttg ggcgactgct

ggcgccgtga ggtggtggac gtgcaggggt ggccacacgc agggatggca gattgtggcc

cagaagaagg tgacccgccc gctgctgctc aagtttggca ggaacgctgg caagtccacc

atcacggtga tcgccgagga catctcgggg aacaacggct acgtggagct ctctctccgg

gccaaggaagc tggacgacaa ggacctcttc agcaagtcgc accccttctc ggagctctac

agggtcaacg acgaccaggg cttgcagctg gtgtacagga cggaggtggg gaagaacaac

960
ctgaacccca gctgggagcc gttcaaagtc tctctgagtt ccctatgcag ctgtgatgtt

caccgacctc taaagttcct ggtctgggat tacgactcca gtgggaagca tgacttcac
1080
ggcgagttca ccagcacttt ccaggagatg caggaagga cggaaccc tgggcaggag
1140
atgcagtggg actgtatcaa cccaagtat cgggacaaga agaagaatta taagaactca
1200
ggagtggtag tgctggctga cctcaagttc cacaggggtg actccttctt ggactatata
1260
atgggtggct gccagatcag cttcacctg gccattgact tcaccgcctc caatggggac
1320
ccgaggagca gccagtcctt gcactacatc agtccccgac agcccaacca ctacctgag
1380
gccctgcgtg cagtgggagg catctgccag gactatgaca gtgataagag gttcccagct
1440
tttggttttg gggctcgaat ccccccaac ttcgagggtg cccatgactt tgctatcaat
1500
ttcaacctg aggacgatga gtgtgaaggc atccagggcg tgggtggaggc ctaccagaac
1560
tgctgcca ggggtccagct ctacggcccc accaacgtgg cggccatcat ctccaagggtg
1620
gctgaaccag cccagcgaga gcagagcacc ggccaagcca cgaagtattc agtactgctg
1680
gtgctcactg acgggtgtggg gagtgatatg gcagagacct gaacagccat tgtgcgagcc
1740
tccgcctgc ccatgtcaat catcatcgtg ggtgtgggca acgctgactt ctctgacatg
1800
aggctactgg acggagatga tgggtccctg cggtgcccac ggggtgagcc cgcgctccgg
1860
gacatcgta agttcgtgcc cttccgggag ctcaagaacg catccctgc ggcgctggcc
1920
aagtgcgtgc tggccgaggt cccgaagcag gtggtggagt actacagcca cagaggcctg
1980
ccccgagaa gcctgggtgt ccctgccgga gaggccagcc caggctgcac accgtgaaga
2040
tgtggagggc gtaggggtggg ggcagtgagg aatgggtccg tacagcctct gtctgcaaca
2100
tgcttgggtt cccttaagct ccctccgacc tcccagaagc ctocagtccc caccaggccc
2160
cactcccagt cctcctggga tcctgctggc ttgggcccgg ctctggggcc cccaaggccg
2220
aagggtgaca aaatacaggc ccccatgcct ggccctgcct gagccagggtg ggtggaggga
2280
gggagatcat gagggacttg gaggagctg ggagttcatc cacgggagac cctgccccga
2340
tgagaagggg cagggactgg gggctctgct ttgctctaa cctttgtggg ggagggccag
2400
caaggcagtc cccccacgcc cgagaaagcc tgggggacct agacacctgt cccacagtc
2460
aaagcctggg gaccagaca tcctgtcccc acagtcagcc tcctgtccct gctgggtgcc
2520
ccaccccac ctacctgtg ctttttgccg tgggctctt gcacctgggt ccatggggtc
2580
tgcgggtct gcgggtctg cctggcctgt gggttctgcc ggtggggctt caggagtaat
2640

aaagtgtcac cctatccttg taaa
2664

<210> 3774

<211> 678

<212> PRT

<213> Homo sapiens

<400> 3774

Ala	Pro	Gly	Arg	Arg	Ser	Gly	Lys	Arg	Gly	His	Ala	Trp	Ala	Gly	His
1				5					10					15	
His	Phe	Pro	Gly	Ala	Ala	Ala	Ala	Arg	Leu	Ala	Gly	Ser	Gly	Pro	Ser
			20					25					30		
Val	Arg	Pro	Ala	Gly	Pro	Pro	Asn	Ala	Gly	Ser	Met	Ser	Ala	Gly	Ser
		35					40					45			
Glu	Arg	Gly	Ala	Ala	Ala	Thr	Pro	Gly	Gly	Leu	Pro	Ala	Pro	Cys	Ala
	50					55					60				
Ser	Lys	Val	Glu	Leu	Arg	Leu	Ser	Cys	Arg	His	Leu	Leu	Asp	Arg	Asp
65					70					75				80	
Pro	Leu	Thr	Lys	Ser	Asp	Pro	Ser	Val	Ala	Leu	Leu	Gln	Gln	Ala	Gln
				85					90					95	
Gly	Gln	Trp	Val	Gln	Val	Gly	Arg	Thr	Glu	Val	Val	Arg	Ser	Ser	Leu
			100					105					110		
His	Pro	Val	Phe	Ser	Lys	Val	Phe	Thr	Val	Asp	Tyr	Tyr	Phe	Glu	Glu
		115					120					125			
Val	Gln	Arg	Leu	Arg	Phe	Glu	Val	Tyr	Asp	Thr	His	Gly	Pro	Ser	Gly
	130					135					140				
Phe	Ser	Cys	Gln	Glu	Asp	Asp	Phe	Leu	Gly	Gly	Met	Glu	Cys	Thr	Leu
145					150					155				160	
Gly	Gln	Pro	Ala	Gln	Lys	Trp	Leu	Leu	Gln	Val	Val	Met	Arg	Val	Ser
				165					170					175	
Val	Asp	Val	Leu	Gly	Pro	Ala	Gly	His	Cys	Ala	Lys	His	Phe	Leu	Cys
			180					185					190		
Cys	Thr	Glu	Ser	Ser	His	Leu	Ala	Arg	Thr	Gly	Pro	Ser	Phe	Leu	Leu
		195					200					205			
Arg	Tyr	Asp	Asp	Leu	Cys	Leu	Pro	Trp	Ala	Thr	Ala	Gly	Ala	Val	Arg
	210					215						220			
Trp	Trp	Thr	Cys	Arg	Gly	Gly	His	Thr	Gln	Gly	Trp	Gln	Ile	Val	Ala
225					230					235				240	
Gln	Lys	Lys	Val	Thr	Arg	Pro	Leu	Leu	Leu	Lys	Phe	Gly	Arg	Asn	Ala
				245					250					255	
Gly	Lys	Ser	Thr	Ile	Thr	Val	Ile	Ala	Glu	Asp	Ile	Ser	Gly	Asn	Asn
			260					265					270		
Gly	Tyr	Val	Glu	Leu	Ser	Phe	Arg	Ala	Arg	Lys	Leu	Asp	Asp	Lys	Asp
		275					280					285			
Leu	Phe	Ser	Lys	Ser	Asp	Pro	Phe	Leu	Glu	Leu	Tyr	Arg	Val	Asn	Asp
	290					295					300				
Asp	Gln	Gly	Leu	Gln	Leu	Val	Tyr	Arg	Thr	Glu	Val	Val	Lys	Asn	Asn
305					310					315				320	
Leu	Asn	Pro	Ser	Trp	Glu	Pro	Phe	Lys	Val	Ser	Leu	Ser	Ser	Leu	Cys
				325					330					335	
Ser	Cys	Asp	Val	His	Arg	Pro	Leu	Lys	Phe	Leu	Val	Trp	Asp	Tyr	Asp
			340					345					350		
Ser	Ser	Gly	Lys	His	Asp	Phe	Ile	Gly	Glu	Phe	Thr	Ser	Thr	Phe	Gln

```

      355              360              365
Glu Met Gln Glu Gly Thr Ala Asn Pro Gly Gln Glu Met Gln Trp Asp
      370              375              380
Cys Ile Asn Pro Lys Tyr Arg Asp Lys Lys Lys Asn Tyr Lys Asn Ser
385              390              395              400
Gly Val Val Val Leu Ala Asp Leu Lys Phe His Arg Val Tyr Ser Phe
      405              410              415
Leu Asp Tyr Ile Met Gly Gly Cys Gln Ile Ser Phe Thr Val Ala Ile
      420              425              430
Asp Phe Thr Ala Ser Asn Gly Asp Pro Arg Ser Ser Gln Ser Leu His
      435              440              445
Tyr Ile Ser Pro Arg Gln Pro Asn His Tyr Leu Gln Ala Leu Arg Ala
      450              455              460
Val Gly Gly Ile Cys Gln Asp Tyr Asp Ser Asp Lys Arg Phe Pro Ala
465              470              475              480
Phe Gly Phe Gly Ala Arg Ile Pro Pro Asn Phe Glu Val Ser His Asp
      485              490              495
Phe Ala Ile Asn Phe Asn Pro Glu Asp Asp Glu Cys Glu Gly Ile Gln
      500              505              510
Gly Val Val Glu Ala Tyr Gln Asn Cys Leu Pro Arg Val Gln Leu Tyr
      515              520              525
Gly Pro Thr Asn Val Ala Pro Ile Ile Ser Lys Val Ala Glu Pro Ala
      530              535              540
Gln Arg Glu Gln Ser Thr Gly Gln Ala Thr Lys Tyr Ser Val Leu Leu
545              550              555              560
Val Leu Thr Asp Gly Val Val Ser Asp Met Ala Glu Thr Arg Thr Ala
      565              570              575
Ile Val Arg Ala Ser Arg Leu Pro Met Ser Ile Ile Ile Val Gly Val
      580              585              590
Gly Asn Ala Asp Phe Ser Asp Met Arg Leu Leu Asp Gly Asp Asp Gly
      595              600              605
Pro Leu Arg Cys Pro Arg Gly Glu Pro Ala Leu Arg Asp Ile Val Gln
      610              615              620
Phe Val Pro Phe Arg Glu Leu Lys Asn Ala Ser Pro Ala Ala Leu Ala
625              630              635              640
Lys Cys Val Leu Ala Glu Val Pro Lys Gln Val Val Glu Tyr Tyr Ser
      645              650              655
His Arg Gly Leu Pro Pro Arg Ser Leu Gly Val Pro Ala Gly Glu Ala
      660              665              670
Ser Pro Gly Cys Thr Pro
      675

```

<210> 3775

<211> 549

<212> DNA

<213> Homo sapiens

<400> 3775

```

gaattcgagg tcctgagaga ctgtgagagc cccaactcca ttagtattat gggcctcaat
60
acttccccggg ttgcaattac cctgaagccc caagacccta tggaacagaa cgtagctgag
120
ctgttcagct tcctgctggt gaaggatcag agcaagtacc ctatccggga gtctgaaatg
180

```


cggggaatata ttgttaaaga atatcgcaac cagtttcctg agatactcag gcgagcagca
 240
 gcccacctgg agtgcatttt taggtttgaa ttgagagaac ttgaccctga ggcacacacc
 300
 tacattctgt taaacaaact gggacctgtg ccctttgaag ggtagaaga gagcccaa
 360
 gggccaaaga tgggcctcct gatgatgatt ctaggccaaa tattcctgaa tggcaaccaa
 420
 gccaaaggagg ctgagatttg ggaaatgctc tggaggatgg ggggtgcagcg ggaaaggagg
 480
 ctttcatttt ttgggaaccc aaagagactt ctgtctgtgg agtttgtatg gcagcggtac
 540
 ttagactac
 549

<210> 3776

<211> 183

<212> PRT

<213> Homo sapiens

<400> 3776

Glu	Phe	Glu	Val	Leu	Arg	Asp	Cys	Glu	Ser	Pro	Asn	Ser	Ile	Ser	Ile
1				5					10				15		
Met	Gly	Leu	Asn	Thr	Ser	Arg	Val	Ala	Ile	Thr	Leu	Lys	Pro	Gln	Asp
			20					25					30		
Pro	Met	Glu	Gln	Asn	Val	Ala	Glu	Leu	Leu	Gln	Phe	Leu	Leu	Val	Lys
		35					40				45				
Asp	Gln	Ser	Lys	Tyr	Pro	Ile	Arg	Glu	Ser	Glu	Met	Arg	Glu	Tyr	Ile
50						55				60					
Val	Lys	Glu	Tyr	Arg	Asn	Gln	Phe	Pro	Glu	Ile	Leu	Arg	Arg	Ala	Ala
65					70				75					80	
Ala	His	Leu	Glu	Cys	Ile	Phe	Arg	Phe	Glu	Leu	Arg	Glu	Leu	Asp	Pro
			85					90					95		
Glu	Ala	His	Thr	Tyr	Ile	Leu	Leu	Asn	Lys	Leu	Gly	Pro	Val	Pro	Phe
			100					105					110		
Glu	Gly	Leu	Glu	Glu	Ser	Pro	Asn	Gly	Pro	Lys	Met	Gly	Leu	Leu	Met
		115					120				125				
Met	Ile	Leu	Gly	Gln	Ile	Phe	Leu	Asn	Gly	Asn	Gln	Ala	Lys	Glu	Ala
		130				135				140					
Glu	Ile	Trp	Glu	Met	Leu	Trp	Arg	Met	Gly	Val	Gln	Arg	Glu	Arg	Arg
145				150					155					160	
Leu	Ser	Ile	Phe	Gly	Asn	Pro	Lys	Arg	Leu	Leu	Ser	Val	Glu	Phe	Val
			165					170					175		
Trp	Gln	Arg	Tyr	Leu	Asp	Tyr									
				180											

<210> 3777

<211> 4915

<212> DNA

<213> Homo sapiens

<400> 3777

ngaggctaca agatcatagt tcatttaaag ccccatccc tgcaagtggg gctttctacc
 60

aatatgaatc ttttcaacct ggaccgtttt cgctttgaga aaaggaataa gattgaggaa
120
gcgcccgaag caacccctca accttcccag cctggccctt cttcaccaat ttctcttagt
180
gctgaagagg agaatgctga aggggaagtt agcagggcaa acactcctga ttcagatata
240
actgaaaaaa cagaagattc tagtgttcca gaaactccag ataataagaa aaaagcaagt
300
atatcatatt tcaaaaatca aagaggaata cagtatatg atttgtcttc tgatagtga
360
gatgtcggtt ccccaaattg ctccaatata gttcaagaga aaacattcaa caaagataca
420
gtgattatag tttctgagcc atctgaagat gaagagtcctc aaggccttcc taccatggca
480
cgtagaaatg atgatatttc agaactggaa gacctttcgg aattggaaga ccttaaagat
540
gctaaacttc agactttgaa ggaacttttt ccacaaagaa gtgacaatga tttacttaag
600
ttgattgaat caacaagcac tatggatgga gcaattgctg ctgccttgct gatgtttggt
660
gatgcaggtg gtgggcccag gaaaagaaaa ttatcttctt cttcagagcc atatgaggaa
720
gatgaattta atgatgatca atctataaaa aagacaagac tggatcatgg agaggaatca
780
aatgagtctg cagaatctag cagtaattgg gaaaagcagg aaagtattgt actgaaattg
840
caaaaggaat ttcccaattt tgataaacag gaacttagag aagtactcaa ggaacatgaa
900
tggtgtaca cagaagcttt agaactctta aaagtgtttg cagaagacca agatatgcaa
960
tatgcatcac aaagtgaggt tccaaatgga aaagaagttt cttcaagaag tcaaaattac
1020
cctaaaaatg caactaaaac aaaactaaaa cagaaatttt caatgaaagc acaaaatggc
1080
tttaacaaga aacgtaaaaa aaatgttttt aatccaaaga gagttgttga agactctgaa
1140
tatgattcag gttctgatgt cggtagttca ctagatgagg actatagtag tggatgaagaa
1200
gtgatggagg atggctataa aggtaaaatt cttcacttcc ttcaagatgc ttcaattggt
1260
gaacttactt tgattcctca gtgttctcag aaaaaggctc agaagataac agaactccgg
1320
ccctttaata gttgggaggc tctgttcaca aagatgtcca aaactaatgg cttatcagaa
1380
gatttgatat ggcaactgtaa aacactgac caagaaagag atgtagttat aaggcttatg
1440
aacaatgtg aagacatttc aaataaattg accaaacaag ttaccatgct tactggaaat
1500
ggaggtggat ggaacataga acaaccttcc attctaaacc agagtttgtc actcaagccc
1560
tatcagaagg ttggtttgaa ttggctggca ttggtacata aacatggact taatggcatt
1620
ttggcagatg aaatgggcct aggaaaaact attcaagcca ttgcatttct ggcatacctc
1680

tatcaggagg gtaataatgg tcctcatttg atcgttgttc cagcttcaac tatagataac
1740
tgggtaaggg aagttaatth atgggtgcct actttgaagg tcctctgtta ctatggttct
1800
caagaagaac gtaaacaaat tagatttaac attcatagta gatatgaaga ttacaatgta
1860
attgtgacca catataactg tgcgatcagc agttctgatg atcgtagtct gtttcgacgg
1920
ctgaaactta attacgcaat ttttgatgag ggccatatgc tgaagaatat gggctccatt
1980
cgctaccagc accttatgac aattaatgca aataaccggt tgctgtcac aggcacacct
2040
gtacagaaca atctgttaga actcatgtcg ctgttgaatt ttgttatgcc acacatgttt
2100
agtagtagca ccagtgaat acgaagaatg ttttcctcta agacaaaatc agcagatgag
2160
caaagcatat atgaaaagga gagaatagca catgcaaac aaattataaa gccatttatt
2220
ctcagaagag taaaagaaga ggttctcaag cagttacccc ccaagaaaga tcgaattgag
2280
ttgtgtgcaa tgtcggagag gcaggagcaa ctctatttgg gtcttttcaa cagattgaaa
2340
aaatctatca ataacttggc cacagaaaaa aacacagaaa tgtgcaatgt catgatgcag
2400
ttgaggaaaa tggccaatca tcctttatta catcgccaat attacacagc tgaaaaactc
2460
aaggaaatgt ctcagcttat gctaaaggaa cctacacatt gtgaggctaa cctgacctg
2520
atctttgaag atatggaagt tatgacagac ttcgaactac atgtactttg taaacagtac
2580
cgacacatta ataactttca gttagacatg gacttgattt tagattctgg aaaatttcga
2640
gttttaggat gcatcttgtc tgaattgaaa cagaaggggtg atagagttgt gttatttagc
2700
caatttacca tgatgctgga tatcttagag gttctattaa aacatcatca gcataggtac
2760
ctcagattag atggaaagac tcagatttct gaaaggattc atctaattga tgagtttaat
2820
accgatatgg atatctttgt gtttctgcta tcaacaaaag ctggtggatt aggaataaat
2880
ctgacttcag caaatgttgt tatacttcac gatattgact gtaatcctta taatgacaaa
2940
caagcagaag atagatgcca tagagtaggc cagactaaag aagtactagt tataaaacta
3000
ataagccaag ggacgattga agaatccatg ctaaaaatta accaacagaa attgaaacta
3060
gaacaggata tgactacagt agatgaaggc gatgaaggga gtatgccagc agatatagcc
3120
acattactaa aaacatcaat gggcctgtga aataagaact gtgaactctc aattgatgag
3180
gaaatatcaa cttggtgcac tcaaggacat ttacattatg atgaccatgg ggtttatgaa
3240
catttataac tttttataat ttccatatta catttctcat agtatggaca actttttgcc
3300

actaactgaa ttctccaaat actcacacgt gaaatttcaa aaaagaagcc acaaatatgt
3360
agttctgaag atgttgaata atcattttac aaagcagttt tctgaatggg gattagttgg
3420
tgattgtttg taacaaatat gctaattgctt tagaaatgtc agtatttttg taattatttc
3480
tacctccaaa tatatatata ttgtctttca ctggataatg tgtgtagatt tttacatgtg
3540
ccttatttga caatgcttat gtcttgtttt tgcttgtctc atttgaagtt cttttttatt
3600
atgttaaaga atgcagctgt atagattata tagctttcat tttattgcta tttgaagcag
3660
atgttcacca atgtcagcaa gaactcaacc tgaatttaaa ggtggcattc catatactaa
3720
catccccag gtctctctca gtacttctgc tgaaacaaat ttatttggct aggcactaag
3780
ttgttttcca gtgaatagta actaaagaag cccctacctt gctccatgga ttaattcctt
3840
ctgttcattt tccaactgca ctaattgtgc atattactct gcctaactct gtgcatgttt
3900
tcattgattt cctctctccg gcttttgctt ctcttgaaac tgttgcccag tcacttctgc
3960
tccaattctc ttctctctca aatagtagtt tattactgcc acatctccat gcatcagcaa
4020
aatgttggtg acatttttct agcctggcag aacagattac ttaaagctat ttcatttcaa
4080
agcagactga atgtgacttc atctaaaggc agcattaggt actgcatgga aataggctat
4140
taacttgaaa ctcttatcaa aatatatttt accagtttcc agaatttcca gtacaggacc
4200
gcctgaagag agagccattg ttcaattcca attcagtggt agtgacaaag tgaatttag
4260
aagtgaagtt gtctatttga tatttaactc tttattaaat ctttctttaa atttctgcct
4320
gtcagctctat attgctgttt ttattataca tcagtttctt tgtataactt gtgagttcca
4380
tgtgttttgt ttttattatg taaatatcat tataaataaa cttattttata aatcaaagat
4440
ttgttaattt ttggaaatca tgcttttcaa agcactctaa cttgctaaga tgctaggtag
4500
tacgacctc tggatttgga aggcaaataa aactcttaca gtgattattt agatattaaa
4560
gactgagaac tcacggctta accccagtct tgatgggtata ttgaacagac tgaatatatt
4620
ttaccattac agggctaaaa ggagtcttca tgtgttaata ctacctctt gtacatcact
4680
atacccaa atcagttattca aattgttagg aattttacct tttaaaatct cataatggat
4740
atctcatgtt ttctgtatta atgtattttc aatgataggc tgtttctttt tttgttggtta
4800
ttgttggtgt tgttatatcc atacttttat ctctaataa atgtagttgg gttcttctg
4860
taatgcgcta ttatgtcttg ggcttaataa aaatatttgt gatcataaaa aaaaa
4915

<210> 3778

<211> 1049

<212> PRT

<213> Homo sapiens

<400> 3778

```

Xaa Gly Tyr Lys Ile Ile Val His Leu Lys Pro Pro Ser Leu Gln Val
 1           5           10           15
Val Leu Ser Thr Asn Met Asn Leu Phe Asn Leu Asp Arg Phe Arg Phe
          20           25           30
Glu Lys Arg Asn Lys Ile Glu Glu Ala Pro Glu Ala Thr Pro Gln Pro
          35           40           45
Ser Gln Pro Gly Pro Ser Ser Pro Ile Ser Leu Ser Ala Glu Glu Glu
          50           55           60
Asn Ala Glu Gly Glu Val Ser Arg Ala Asn Thr Pro Asp Ser Asp Ile
          65           70           75           80
Thr Glu Lys Thr Glu Asp Ser Ser Val Pro Glu Thr Pro Asp Asn Glu
          85           90           95
Arg Lys Ala Ser Ile Ser Tyr Phe Lys Asn Gln Arg Gly Ile Gln Tyr
          100          105          110
Ile Asp Leu Ser Ser Asp Ser Glu Asp Val Val Ser Pro Asn Cys Ser
          115          120          125
Asn Thr Val Gln Glu Lys Thr Phe Asn Lys Asp Thr Val Ile Ile Val
          130          135          140
Ser Glu Pro Ser Glu Asp Glu Glu Ser Gln Gly Leu Pro Thr Met Ala
          145          150          155          160
Arg Arg Asn Asp Asp Ile Ser Glu Leu Glu Asp Leu Ser Glu Leu Glu
          165          170          175
Asp Leu Lys Asp Ala Lys Leu Gln Thr Leu Lys Glu Leu Phe Pro Gln
          180          185          190
Arg Ser Asp Asn Asp Leu Leu Lys Leu Ile Glu Ser Thr Ser Thr Met
          195          200          205
Asp Gly Ala Ile Ala Ala Ala Leu Leu Met Phe Gly Asp Ala Gly Gly
          210          215          220
Gly Pro Arg Lys Arg Lys Leu Ser Ser Ser Ser Glu Pro Tyr Glu Glu
          225          230          235          240
Asp Glu Phe Asn Asp Asp Gln Ser Ile Lys Lys Thr Arg Leu Asp His
          245          250          255
Gly Glu Glu Ser Asn Glu Ser Ala Glu Ser Ser Ser Asn Trp Glu Lys
          260          265          270
Gln Glu Ser Ile Val Leu Lys Leu Gln Lys Glu Phe Pro Asn Phe Asp
          275          280          285
Lys Gln Glu Leu Arg Glu Val Leu Lys Glu His Glu Trp Met Tyr Thr
          290          295          300
Glu Ala Leu Glu Ser Leu Lys Val Phe Ala Glu Asp Gln Asp Met Gln
          305          310          315          320
Tyr Ala Ser Gln Ser Glu Val Pro Asn Gly Lys Glu Val Ser Ser Arg
          325          330          335
Ser Gln Asn Tyr Pro Lys Asn Ala Thr Lys Thr Lys Leu Lys Gln Lys
          340          345          350
Phe Ser Met Lys Ala Gln Asn Gly Phe Asn Lys Lys Arg Lys Lys Asn
          355          360          365
Val Phe Asn Pro Lys Arg Val Val Glu Asp Ser Glu Tyr Asp Ser Gly

```

370		375		380
Ser Asp Val Gly Ser Ser Leu Asp Glu Asp Tyr Ser Ser Gly Glu Glu				
385		390		400
Val Met Glu Asp Gly Tyr Lys Gly Lys Ile Leu His Phe Leu Gln Asp				
	405		410	415
Ala Ser Ile Gly Glu Leu Thr Leu Ile Pro Gln Cys Ser Gln Lys Lys				
	420		425	430
Ala Gln Lys Ile Thr Glu Leu Arg Pro Phe Asn Ser Trp Glu Ala Leu				
	435		440	445
Phe Thr Lys Met Ser Lys Thr Asn Gly Leu Ser Glu Asp Leu Ile Trp				
	450		455	460
His Cys Lys Thr Leu Ile Gln Glu Arg Asp Val Val Ile Arg Leu Met				
	465		470	475
Asn Lys Cys Glu Asp Ile Ser Asn Lys Leu Thr Lys Gln Val Thr Met				
	485		490	495
Leu Thr Gly Asn Gly Gly Gly Trp Asn Ile Glu Gln Pro Ser Ile Leu				
	500		505	510
Asn Gln Ser Leu Ser Leu Lys Pro Tyr Gln Lys Val Gly Leu Asn Trp				
	515		520	525
Leu Ala Leu Val His Lys His Gly Leu Asn Gly Ile Leu Ala Asp Glu				
	530		535	540
Met Gly Leu Gly Lys Thr Ile Gln Ala Ile Ala Phe Leu Ala Tyr Leu				
	545		550	555
Tyr Gln Glu Gly Asn Asn Gly Pro His Leu Ile Val Val Pro Ala Ser				
	565		570	575
Thr Ile Asp Asn Trp Leu Arg Glu Val Asn Leu Trp Cys Pro Thr Leu				
	580		585	590
Lys Val Leu Cys Tyr Tyr Gly Ser Gln Glu Glu Arg Lys Gln Ile Arg				
	595		600	605
Phe Asn Ile His Ser Arg Tyr Glu Asp Tyr Asn Val Ile Val Thr Thr				
	610		615	620
Tyr Asn Cys Ala Ile Ser Ser Ser Asp Asp Arg Ser Leu Phe Arg Arg				
	625		630	635
Leu Lys Leu Asn Tyr Ala Ile Phe Asp Glu Gly His Met Leu Lys Asn				
	645		650	655
Met Gly Ser Ile Arg Tyr Gln His Leu Met Thr Ile Asn Ala Asn Asn				
	660		665	670
Arg Leu Leu Leu Thr Gly Thr Pro Val Gln Asn Asn Leu Leu Glu Leu				
	675		680	685
Met Ser Leu Leu Asn Phe Val Met Pro His Met Phe Ser Ser Ser Thr				
	690		695	700
Ser Glu Ile Arg Arg Met Phe Ser Ser Lys Thr Lys Ser Ala Asp Glu				
	705		710	715
Gln Ser Ile Tyr Glu Lys Glu Arg Ile Ala His Ala Lys Gln Ile Ile				
	725		730	735
Lys Pro Phe Ile Leu Arg Arg Val Lys Glu Glu Val Leu Lys Gln Leu				
	740		745	750
Pro Pro Lys Lys Asp Arg Ile Glu Leu Cys Ala Met Ser Glu Arg Gln				
	755		760	765
Glu Gln Leu Tyr Leu Gly Leu Phe Asn Arg Leu Lys Lys Ser Ile Asn				
	770		775	780
Asn Leu Val Thr Glu Lys Asn Thr Glu Met Cys Asn Val Met Met Gln				
	785		790	795
Leu Arg Lys Met Ala Asn His Pro Leu Leu His Arg Gln Tyr Tyr Thr				800

```
<210> 3779
<211> 1853
<212> DNA
<213> Homo sapiens
```

```
<400> 3779
catagggaaa aggaagacat aaaaatcact aaggaaagaa ctccagaaag tgaagaagaa
60
aatgtagaat gggaaactaa tagagatgat tctgacaatg gagatattaa ttatgattat
120
gttcatgaat tgtcattgga aatgaagcgt cagaagatac agagggaatt aatgaagctg
180
gaacaagaaa acatggagaa gagagaagaa attatcatta aaaaggagggt ttcaccagaa
240
gtgggttagat caaaattgtc cccgtcacct tctctaagaa agtctagcaa atctccgaag
300
cgaaaatcaa gcccgaagtc gtcttcagct agcaagaaag ataggaagac atctgcagta
360
tcttctcccc tgttggaacca gcagagaaat tcaaaaacca accaaaagtaa aaagaaagga
420
ccacgtactc ctagtccacc cctcctata ccagaagata tcgctctggg gaaaaaatac
480
```

aaagaaaaat ataaagtaaa agacaggata gaagaaaaaa caagagatgg aaaggacaga
540
ggacgagatt ttgaacgaca aagagaaaag agagacaagc caaggctctac ttccccagca
600
ggacagcatc attctcctat atcttctaga catcactcat cttcctcaca atcaggatca
660
tctattcaaa gacattctcc ttctcctcgt cgaaaaagaa ctccttcacc atcttatcag
720
cggacactaa ctccaccttt acgacgctct gcctctcctt atccttcaca ttctttgtcg
780
tctccccaga gaaagcagag tcctccaaga catcgctctc caatgcgaga gaaagggaga
840
catgatcatg aacgaacttc acagtctcat gatcgacgcc acgaaggagg ggaagatact
900
aggggcacaac gagacagaga aaaggactca agagaagaac gagaatatga acaggatcag
960
agctcttcta gagaccacag agatgacaga gaacctcgag atggctcgga tcggagagat
1020
gccagagata ctagggaccg aagggaacta agagactcca gagacatgcg ggactcaagg
1080
gagatgagag attatagcag agataccaaa gagagccgtg atcccagaga ttctcgggtcc
1140
actcgtgatg cccatgacta cagggaccgt gaaggctcgag atactcatcg aaaggaggat
1200
acatatccag aagaatcccg gagttatggc cgaaaccatt tgagagaaga aagttctcgt
1260
acggaaataa ggaatgagtc cagaaatgag tctcgaagtg aaattagaaa tgaccgaatg
1320
ggccgaagta gggggagggt tcctgagtta cctgaaaagg gaagtcgagg ctcaagagg
1380
tctcaaattg atagtcacag tagtaatagc aactatcatg acagctggga aactcgaagt
1440
agctatcctg aaagagatag atatcctgaa agagacaaca gagatcaagc aagggtattct
1500
tcctttgaga gaagacatgg agagcgagac cgtcgtgacc agagagagag atcaaagacc
1560
aagctacca attcgacatc agggaaggaa tgacgagctt gagcgtgatg aaagaagaga
1620
ggaacgaaga gtagacaggt ccattcaaga tctgggtcat ttgatagcag agacaggctt
1680
caagaacgag atcgatatga acacgacaga gagcgcgagn nagagaggag agatacgagg
1740
cagagagaat gggaccgaga tgctgataaa gattggccac gcaacaggga tcgagataga
1800
ttgcgagaac gagaacgaga gagagaacga gacaaaagga gagacttggc tcg
1853

<210> 3780

<211> 530

<212> PRT

<213> Homo sapiens

<400> 3780

His Arg Glu Lys Glu Asp Ile Lys Ile Thr Lys Glu Arg Thr Pro Glu

1				5					10					15
Ser	Glu	Glu	Glu	Asn	Val	Glu	Trp	Glu	Thr	Asn	Arg	Asp	Asp	Ser
			20					25					30	
Asn	Gly	Asp	Ile	Asn	Tyr	Asp	Tyr	Val	His	Glu	Leu	Ser	Leu	Met
		35					40					45		
Lys	Arg	Gln	Lys	Ile	Gln	Arg	Glu	Leu	Met	Lys	Leu	Glu	Gln	Asn
		50				55					60			
Met	Glu	Lys	Arg	Glu	Glu	Ile	Ile	Ile	Lys	Lys	Glu	Val	Ser	Pro
65					70					75				80
Val	Val	Arg	Ser	Lys	Leu	Ser	Pro	Ser	Pro	Ser	Leu	Arg	Lys	Ser
				85					90					95
Lys	Ser	Pro	Lys	Arg	Lys	Ser	Ser	Pro	Lys	Ser	Ser	Ser	Ala	Ser
		100						105					110	
Lys	Asp	Arg	Lys	Thr	Ser	Ala	Val	Ser	Ser	Pro	Leu	Leu	Asp	Gln
		115					120						125	
Arg	Asn	Ser	Lys	Thr	Asn	Gln	Ser	Lys	Lys	Lys	Gly	Pro	Arg	Thr
		130				135					140			
Ser	Pro	Pro	Pro	Pro	Ile	Pro	Glu	Asp	Ile	Ala	Leu	Gly	Lys	Tyr
145					150					155				160
Lys	Glu	Lys	Tyr	Lys	Val	Lys	Asp	Arg	Ile	Glu	Glu	Lys	Thr	Arg
				165					170					175
Gly	Lys	Asp	Arg	Gly	Arg	Asp	Phe	Glu	Arg	Gln	Arg	Glu	Lys	Arg
		180					185					190		
Lys	Pro	Arg	Ser	Thr	Ser	Pro	Ala	Gly	Gln	His	His	Ser	Pro	Ile
		195				200						205		
Ser	Arg	His	His	Ser	Ser	Ser	Ser	Gln	Ser	Gly	Ser	Ser	Ile	Gln
		210				215					220			
His	Ser	Pro	Ser	Pro	Arg	Arg	Lys	Arg	Thr	Pro	Ser	Pro	Ser	Tyr
225					230					235				240
Arg	Thr	Leu	Thr	Pro	Pro	Leu	Arg	Arg	Ser	Ala	Ser	Pro	Tyr	Pro
				245						250				255
His	Ser	Leu	Ser	Ser	Pro	Gln	Arg	Lys	Gln	Ser	Pro	Pro	Arg	His
		260						265					270	
Ser	Pro	Met	Arg	Glu	Lys	Gly	Arg	His	Asp	His	Glu	Arg	Thr	Ser
		275					280					285		
Ser	His	Asp	Arg	Arg	His	Glu	Gly	Arg	Glu	Asp	Thr	Arg	Gly	Lys
		290				295					300			
Asp	Arg	Glu	Lys	Asp	Ser	Arg	Glu	Glu	Arg	Glu	Tyr	Glu	Gln	Asp
305					310					315				320
Ser	Ser	Ser	Arg	Asp	His	Arg	Asp	Asp	Arg	Glu	Pro	Arg	Asp	Gly
				325					330					335
Asp	Arg	Arg	Asp	Ala	Arg	Asp	Thr	Arg	Asp	Arg	Arg	Glu	Leu	Arg
		340						345					350	
Ser	Arg	Asp	Met	Arg	Asp	Ser	Arg	Glu	Met	Arg	Asp	Tyr	Ser	Arg
		355					360					365		
Thr	Lys	Glu	Ser	Arg	Asp	Pro	Arg	Asp	Ser	Arg	Ser	Thr	Arg	Asp
		370				375						380		
His	Asp	Tyr	Arg	Asp	Arg	Glu	Gly	Arg	Asp	Thr	His	Arg	Lys	Glu
385					390					395				400
Thr	Tyr	Pro	Glu	Glu	Ser	Arg	Ser	Tyr	Gly	Arg	Asn	His	Leu	Arg
				405					410					415
Glu	Ser	Ser	Arg	Thr	Glu	Ile	Arg	Asn	Glu	Ser	Arg	Asn	Glu	Ser
				420				425					430	
Ser	Glu	Ile	Arg	Asn	Asp	Arg	Met	Gly	Arg	Ser	Arg	Gly	Arg	Val

435 440 445
 Glu Leu Pro Glu Lys Gly Ser Arg Gly Ser Arg Gly Ser Gln Ile Asp
 450 455 460
 Ser His Ser Ser Asn Ser Asn Tyr His Asp Ser Trp Glu Thr Arg Ser
 465 470 475 480
 Ser Tyr Pro Glu Arg Asp Arg Tyr Pro Glu Arg Asp Asn Arg Asp Gln
 485 490 495
 Ala Arg Asp Ser Ser Phe Glu Arg Arg His Gly Glu Arg Asp Arg Arg
 500 505 510
 Asp Gln Arg Glu Arg Ser Lys Thr Lys Leu Thr Asn Ser Thr Ser Gly
 515 520 525
 Lys Glu
 530

<210> 3781

<211> 1364

<212> DNA

<213> Homo sapiens

<400> 3781

ctgagcacgt cccagctgga tctcgtctgc cactgtcacc catagcttct tccccatggt
 60
 gctttccatg tgtcacacac cagcactgtg acccaggggc ggggtcaaga gtagcctggg
 120
 gccaaagccct cccacccatg agcggagaag tcttccccag gcctcacctt gcctggcgca
 180
 tgggtccctcc catgagcttt gctttcagcc ttccagcttc ctccacaggg tggcagtggt
 240
 tgtaactcat ccattcatcc cttcatccct tcattcattc actcacagcc aacagacgtt
 300
 tttaaaaaat tagccagtgc tatactagag ctgggtccca aggaccgct accgcattgc
 360
 cttttgaaac aaaacaatga acacgttggt aaaggggccc tgcttgtgtg tcggtgacaa
 420
 ggcgagatcc ctgagtcagg tcaggcttgt agattcgagt tctgttgca gtttgattgc
 480
 ccctctgact ttgtccctg tacaactagg ttgattagga atcagccaac tgtgttcct
 540
 ggggtgctcag aaatcacagc ccatatcctc gagaggccaa aatgagagcc aggggggtcc
 600
 aagatgagt gctgcttctg gccgggagca ggttttcaag tcattagaac actctggcct
 660
 ttcctggagg tgatcttgga gccattcctg cccctttcaa gaggagttaa tgcccagctc
 720
 tgtttagaga aaattggggg agatgattgc tcatgtgggt gataagaatc acctccctg
 780
 caggggtctg catagaacac tccataggca aacctgggtg tccaaggcac gtggcatttt
 840
 gcaaaactctg ggtgcagctc cgagctgtcc tgcaggtccc agaccagggt agaactccct
 900
 gagttcctgc tgccctgggtc gggggtgagg cataggtctt ggggggttcaa cctggaattc
 960
 tgaatgtcat tcattgcatt ggagaggaag gagagtaggc aaagccaaga ccctggaact
 1020

ggacaaactc gtgtggttta aagtcactgt gagagctgga gttgagtctg cctacggggg
 1080
 aggactgcgg cacctacctc gcagggtgtg tgtgaggagc aatgtaaccg tgattttgaa
 1140
 ctgtgattct ggaagggcgg tgtgcgtgtc cccgggggtg tgccagggga gtgaggagaa
 1200
 aaggccaggg agacagcctc actcaggcag ctgagtggga gagcatttat ctctaaacct
 1260
 ggaggggtat atggtgggac aggaggaatt tgggcaggaa ctttcatgct aggggtttgg
 1320
 ggagctcgct ggacaatgcc cctggacccc ccgggggtac gcgt
 1364

<210> 3782
 <211> 112
 <212> PRT
 <213> Homo sapiens

<400> 3782
 Met Asn Asp Ile Gln Asn Ser Arg Leu Asn Pro Gln Asp Leu Cys Leu
 1 5 10 15
 Thr Pro Asp Pro Gly Ser Arg Asn Ser Gly Ser Ser His Leu Val Trp
 20 25 30
 Asp Leu Gln Asp Ser Ser Glu Leu His Pro Glu Phe Ala Lys Cys His
 35 40 45
 Val Pro Trp Thr Pro Arg Phe Ala Tyr Gly Val Phe Tyr Ala Asp Pro
 50 55 60
 Cys Thr Gly Gly Asp Ser Tyr His Pro His Glu Gln Ser Ser Pro Pro
 65 70 75 80
 Ile Phe Ser Lys Gln Ser Trp Ala Leu Thr Pro Leu Glu Arg Gly Arg
 85 90 95
 Asn Gly Ser Lys Ile Thr Ser Arg Lys Gly Gln Ser Val Leu Met Thr
 100 105 110

<210> 3783
 <211> 4137
 <212> DNA
 <213> Homo sapiens

<400> 3783
 nncaaggcgc ctgcgactcg gtcccaggtc ggccgggcgc gcgcggcggg ctgcgcggg
 60
 ggccccggcg cgccgggcgg cgagtagcgc agcgcgcgga cccacgccac ggccaggagc
 120
 ccagagcagc gcggccacac tgcccagggg tcggccctcg gccccggcgc tcggagcgcg
 180
 gcggctgcct gggctttaat ggctgctccg cggagcagcg cctagggctg gaaggcggct
 240
 gcggctcagg aagtcaccgc agcaagcctc ctgcggggcc ggccgcaccc gccgcggcgc
 300
 gctccatggg ggcgcgctcc cccggggcgg cccgctgacc cgggacgcgc gggcccgctc
 360
 gctcgccggc cgcgcgctcc ggccatgaac tgagcccgcg ggccagcccc gcgcctgctc
 420

cgccccggccc tttctttctcg cgcctcctcc gcccgccgcc ggcggggccc gctccccggg
480
ggctgcgggc ccccgggctc ggcgggccgc gggccccggg gcgcggggcg gcggcgggcg
540
ggggcgcgcg gctccggggc cggcgccctgc accatgaact accagcagca gctggccaac
600
tcggctgcca tccggggcca gatccagcgc ttcgagtcgg tccaccccaa catctactcc
660
atctacgagc tgctggagcg cgtggaggag ccggtgctgc agaaccagat ccgggagcac
720
gtcatcgcca tcgaagatgc ctctgtgaac agccaggaat ggacgtgag tcgatctgtc
780
ccggagctca aagtgggaat tgtgggtaac ttggccagcg gcaagtctgc cctggtgcac
840
cggtagctga cgggcacata tgtccaggag gagtctccgg aagggtggcag gttcaagaaa
900
gagattgtcg ttgatggaca gagctatctg ctgctgatca gagatgaagg gggccccccg
960
gaggcgagcgt ttgcatgtg ggtggacgct gttatatttg tcttcagctt ggaggatgaa
1020
ataagtttcc agaccgttta ccactactac agtcgaatgg ccaactatcg gaacacgagc
1080
gagattcctc tggttctggt gggaaaccag gatgccataa gttctgctaa cccgagggtc
1140
atcgatgacg ccagggcgag gaagctctcc aacgacctga aacggtgcac gtactacgag
1200
acgtgtgcta catacgggct gaatgtggag agggctctcc aggacgttgc ccagaagatt
1260
gttgccacaa ggaagaagca gcagctgtcc ataggacct gcaagtcgct acctaattct
1320
ccagccatt cctccgtctg ttccgcgcag gtgtctgccg tgcacatcag ccagacaagt
1380
aatggagggtg ggagtttaag cgactattcc tctccgttc catcgactcc cagcaccagc
1440
cagaagggaac ttcggatcga tgttcctccc actgccaaac cggccacgcc cgttcgcaag
1500
cagtctaagc gccggtccaa cctgttcacc tctcggaag ggagcgaccc agacaaagag
1560
aagaaaggcc tggagagtcg tgcggacagc attgggagcg gccgagccat cccaattaaa
1620
cagggcatgc tgttgaagcg aagtggcaaa tcgttgaata aagagtggaa aaagaaatat
1680
gtcacctgt gtgacaatgg cgtgctgacc tatcatcca gtttacatga ttacatgcag
1740
aatgttcatg gtaaggagat tgacctctg agaaccactg tgaaagtccc agggagagg
1800
ccaccccgag ccacgtcagc ctgcgcaccc atctccagcc ctaaaaccaa tggcctatcc
1860
aaggacatga gcagtttaca catctcacc aattcagaca cagggctggg tgactccgta
1920
tgctccagcc ccagtatctc cagcaccacc agccccaagc tcgacccgcc cccctcccct
1980
cacgccaaca gaaagaagca ccgaaggaag aaaagcacta gcaacttcaa agccgacggc
2040

ctgtccggca ctgctgaaga acaagaagaa aattttgagt ttatcattgt gtccctcact
2100
ggccaaacat ggcactttga agccacgacg tatgaggagc gggacgcctg ggtccaagcc
2160
atcgagagcc agatcctggc cagcctgcag tcgtgcgaga gcagcaagaa caagtcccgg
2220
ctgacgagcc agagcgaggc catggccctg cagtcgatcc ggaacatgcg cgggaactcc
2280
cactgtgtgg actgcgagac ccagaatccc aactgggcca gtttgaactt gggagccctc
2340
atgtgcatcg aatgctcagg gatccaccgg aatcttggca cccacctttc ccgagtccga
2400
tctctggacc tggatgactg gccaatcgag ctcatcaagg tgatgtcatc catcgggaac
2460
gagctagcca acagcgtctg ggaagagagc agccaggggc ggacgaaacc atcggtagac
2520
tccacaaggg aagagaagga acggtggatc cgtgccaaagt acgagcagaa gctcttctcg
2580
gccccgctgc cctgcacgga gctgtccctg ggccagcacc tgctgcgggc caccgcccac
2640
gaggacctgc ggacggccat cctgctgctg gcacacggct cccgggacga ggtgaacgag
2700
acctgcgggg agggagacgg ccgcacggcg ctgcatctgg cctgccgcaa ggggaatgtg
2760
gtcctggcgc agctcctgat ctggtacgga gtggacgtca cggcccgaga tgcccacggg
2820
aacacagctc tggcctacgc ccggcaggcc tccagccagg agtgcacga cgtgctgctg
2880
cagtacggct gccccgacga gcgcttcgtg ctcatggcca cccctaacct gtccaggaga
2940
aacaataacc ggaacaacag cagtgggagg gtgcccacca tcatctgagg aacagccgtg
3000
cccgctgct cgccgcacct gggacgcggc agcctcgccg cattctcgct cagaagtgcg
3060
agcacgtgag tcccgtcgca tcccctccct ctctctgggt gccacctccc tcccggccac
3120
ccactctcac cccaaacaaa atcacaaaac ctggacatcc ctcaaggggc gaagaggcgg
3180
ccgggagact gcagaagtgg ctctttttca taaactcccc taaaccacac acaggagaga
3240
gcgacggggc tgggcccttt gatgatagca catggcgagc gacccttgtc ctggtggcac
3300
aagggatggg gacgcgaggg ggaggggagg cgaggaacaa ggagaagggg caactttcct
3360
taactggcag ttgagcacat agtacatttc ccctctacca aacggaacac ttggattcca
3420
tctcttctct gaggagctcg acggcataaa tcagaagcaa gcacagagtt tgtcaggttt
3480
gaagccccta tgatggtgtg tgtcaaatca gttgtagcta atctgtccag ggagaatact
3540
ggcttcatta cacttgtaga gccgagttct tcccgcatta ctgctgttta atagaacgtg
3600
attagtcac gccgagaaga aagcatatta gccgaggagg tagtcacgcg gcacgcgccg
3660

gtgattgcc a cgatgtgatt gcaatactct tagaagcacc atattatccc agacatgttc
 3720
 tttcaagccc ttggagccct ctctaaattc actgtcatca tttagtatct gtttaatttt
 3780
 tcagtccaaa gagaggaaat cagtcgctga gtattatttg actecggctc ccttggtgca
 3840
 aaaacaaaat gggaaaaata aataagaata actcagaaac tcaaaaggaa accacaaatt
 3900
 cagctaataa tagcatttcg agtatatttc gtaaaactaag gaaatacaca aaaggctgtt
 3960
 ttttccgact gtaagagata tttgatgtcc ttttgccgag gtggatgtgt tagtctcagg
 4020
 ccctcctgga ccacgttgcc caagtcacac aggcttctgt gttatgtatt tagataagat
 4080
 gtgtgaaaat atatttgaat aaaagaagtt cataaaaaaa aaaaaaaaaa aaaaaaa
 4137

<210> 3784

<211> 804

<212> PRT

<213> Homo sapiens

<400> 3784

Met	Asn	Tyr	Gln	Gln	Gln	Leu	Ala	Asn	Ser	Ala	Ala	Ile	Arg	Ala	Glu
1			5					10					15		
Ile	Gln	Arg	Phe	Glu	Ser	Val	His	Pro	Asn	Ile	Tyr	Ser	Ile	Tyr	Glu
		20						25				30			
Leu	Leu	Glu	Arg	Val	Glu	Glu	Pro	Val	Leu	Gln	Asn	Gln	Ile	Arg	Glu
	35						40				45				
His	Val	Ile	Ala	Ile	Glu	Asp	Ala	Phe	Val	Asn	Ser	Gln	Glu	Trp	Thr
	50					55				60					
Leu	Ser	Arg	Ser	Val	Pro	Glu	Leu	Lys	Val	Gly	Ile	Val	Gly	Asn	Leu
65					70					75				80	
Ala	Ser	Gly	Lys	Ser	Ala	Leu	Val	His	Arg	Tyr	Leu	Thr	Gly	Thr	Tyr
			85						90					95	
Val	Gln	Glu	Glu	Ser	Pro	Glu	Gly	Gly	Arg	Phe	Lys	Lys	Glu	Ile	Val
		100					105						110		
Val	Asp	Gly	Gln	Ser	Tyr	Leu	Leu	Ile	Arg	Asp	Glu	Gly	Gly	Pro	
	115					120				125					
Pro	Glu	Ala	Gln	Phe	Ala	Met	Trp	Val	Asp	Ala	Val	Ile	Phe	Val	Phe
	130					135				140					
Ser	Leu	Glu	Asp	Glu	Ile	Ser	Phe	Gln	Thr	Val	Tyr	His	Tyr	Tyr	Ser
145					150					155				160	
Arg	Met	Ala	Asn	Tyr	Arg	Asn	Thr	Ser	Glu	Ile	Pro	Leu	Val	Leu	Val
			165						170					175	
Gly	Thr	Gln	Asp	Ala	Ile	Ser	Ser	Ala	Asn	Pro	Arg	Val	Ile	Asp	Asp
		180						185					190		
Ala	Arg	Ala	Arg	Lys	Leu	Ser	Asn	Asp	Leu	Lys	Arg	Cys	Thr	Tyr	Tyr
	195					200						205			
Glu	Thr	Cys	Ala	Thr	Tyr	Gly	Leu	Asn	Val	Glu	Arg	Val	Phe	Gln	Asp
	210					215						220			
Val	Ala	Gln	Lys	Ile	Val	Ala	Thr	Arg	Lys	Lys	Gln	Gln	Leu	Ser	Ile
225					230					235				240	
Gly	Pro	Cys	Lys	Ser	Leu	Pro	Asn	Ser	Pro	Ser	His	Ser	Ser	Val	Cys

				245				250				255			
Ser	Ala	Gln	Val	Ser	Ala	Val	His	Ile	Ser	Gln	Thr	Ser	Asn	Gly	Gly
260				265				270							
Gly	Ser	Leu	Ser	Asp	Tyr	Ser	Ser	Ser	Val	Pro	Ser	Thr	Pro	Ser	Thr
275				280				285							
Ser	Gln	Lys	Glu	Leu	Arg	Ile	Asp	Val	Pro	Pro	Thr	Ala	Asn	Thr	Pro
290				295				300							
Thr	Pro	Val	Arg	Lys	Gln	Ser	Lys	Arg	Arg	Ser	Asn	Leu	Phe	Thr	Ser
305				310				315				320			
Arg	Lys	Gly	Ser	Asp	Pro	Asp	Lys	Glu	Lys	Lys	Gly	Leu	Glu	Ser	Arg
325				330				335							
Ala	Asp	Ser	Ile	Gly	Ser	Gly	Arg	Ala	Ile	Pro	Ile	Lys	Gln	Gly	Met
340				345				350							
Leu	Leu	Lys	Arg	Ser	Gly	Lys	Ser	Leu	Asn	Lys	Glu	Trp	Lys	Lys	Lys
355				360				365							
Tyr	Val	Thr	Leu	Cys	Asp	Asn	Gly	Val	Leu	Thr	Tyr	His	Pro	Ser	Leu
370				375				380							
His	Asp	Tyr	Met	Gln	Asn	Val	His	Gly	Lys	Glu	Ile	Asp	Leu	Leu	Arg
385				390				395				400			
Thr	Thr	Val	Lys	Val	Pro	Gly	Lys	Arg	Pro	Pro	Arg	Ala	Thr	Ser	Ala
405				410				415							
Cys	Ala	Pro	Ile	Ser	Ser	Pro	Lys	Thr	Asn	Gly	Leu	Ser	Lys	Asp	Met
420				425				430							
Ser	Ser	Leu	His	Ile	Ser	Pro	Asn	Ser	Asp	Thr	Gly	Leu	Gly	Asp	Ser
435				440				445							
Val	Cys	Ser	Ser	Pro	Ser	Ile	Ser	Ser	Thr	Thr	Ser	Pro	Lys	Leu	Asp
450				455				460							
Pro	Pro	Pro	Ser	Pro	His	Ala	Asn	Arg	Lys	Lys	His	Arg	Arg	Lys	Lys
465				470				475				480			
Ser	Thr	Ser	Asn	Phe	Lys	Ala	Asp	Gly	Leu	Ser	Gly	Thr	Ala	Glu	Glu
485				490				495							
Gln	Glu	Glu	Asn	Phe	Glu	Phe	Ile	Ile	Val	Ser	Leu	Thr	Gly	Gln	Thr
500				505				510							
Trp	His	Phe	Glu	Ala	Thr	Thr	Tyr	Glu	Glu	Arg	Asp	Ala	Trp	Val	Gln
515				520				525							
Ala	Ile	Glu	Ser	Gln	Ile	Leu	Ala	Ser	Leu	Gln	Ser	Cys	Glu	Ser	Ser
530				535				540							
Lys	Asn	Lys	Ser	Arg	Leu	Thr	Ser	Gln	Ser	Glu	Ala	Met	Ala	Leu	Gln
545				550				555				560			
Ser	Ile	Arg	Asn	Met	Arg	Gly	Asn	Ser	His	Cys	Val	Asp	Cys	Glu	Thr
565				570				575							
Gln	Asn	Pro	Asn	Trp	Ala	Ser	Leu	Asn	Leu	Gly	Ala	Leu	Met	Cys	Ile
580				585				590							
Glu	Cys	Ser	Gly	Ile	His	Arg	Asn	Leu	Gly	Thr	His	Leu	Ser	Arg	Val
595				600				605							
Arg	Ser	Leu	Asp	Leu	Asp	Asp	Trp	Pro	Ile	Glu	Leu	Ile	Lys	Val	Met
610				615				620							
Ser	Ser	Ile	Gly	Asn	Glu	Leu	Ala	Asn	Ser	Val	Trp	Glu	Glu	Ser	Ser
625				630				635				640			
Gln	Gly	Arg	Thr	Lys	Pro	Ser	Val	Asp	Ser	Thr	Arg	Glu	Glu	Lys	Glu
645				650				655							
Arg	Trp	Ile	Arg	Ala	Lys	Tyr	Glu	Gln	Lys	Leu	Phe	Leu	Ala	Pro	Leu
660				665				670							
Pro	Cys	Thr	Glu	Leu	Ser	Leu	Gly	Gln	His	Leu	Leu	Arg	Ala	Thr	Ala

675	680	685
Asp Glu Asp Leu Arg Thr Ala Ile Leu Leu Leu Ala His Gly Ser Arg		
690	695	700
Asp Glu Val Asn Glu Thr Cys Gly Glu Gly Asp Gly Arg Thr Ala Leu		
705	710	715
His Leu Ala Cys Arg Lys Gly Asn Val Val Leu Ala Gln Leu Leu Ile		
725	730	735
Trp Tyr Gly Val Asp Val Thr Ala Arg Asp Ala His Gly Asn Thr Ala		
740	745	750
Leu Ala Tyr Ala Arg Gln Ala Ser Ser Gln Glu Cys Ile Asp Val Leu		
755	760	765
Leu Gln Tyr Gly Cys Pro Asp Glu Arg Phe Val Leu Met Ala Thr Pro		
770	775	780
Asn Leu Ser Arg Arg Asn Asn Asn Arg Asn Asn Ser Ser Gly Arg Val		
785	790	795
Pro Thr Ile Ile		800

<210> 3785

<211> 1901

<212> DNA

<213> Homo sapiens

<400> 3785

```

tttttttttt tttttttttt tttttttttt tttttttttt ttctggtcaa actccctttt
60
tattaagggt tatcaagctg tacacggtcc ctaccctgct ccgctccgag ttcgggcagc
120
gcaattcacc actctcccaa agccggacca cagctgggtg aggggtggga cagagagtag
180
gagcagtcctc agcatgcagt gcagcagccc aaagcctcgg gcgaggcatc gcccttcctc
240
ccccttcagg gcacagcgag atgcgggcca gagctctttt gctgggacgt acacagccaa
300
ggtcaccctc cagcccggtc tgtcccatgt gcaggtgatg gggggtacga taagcagcaa
360
tgagggccca ggaagacctc agtctcctgg gggcccatcc taaaagatgg caagggcagc
420
aaagtatttc catcctgctc ctacaattta gaaaccttct tttttagtgt caaaatatag
480
cgttgagggg agctggacgc tagggctctc accctaacgc aaagcaaaag ccgaacggaa
540
cgggagcaag cgaacagaac aggagcaagc agcacacaca ggccagtgat gtgcaagaag
600
cggagagagg tgagccggct gcagcactgg gcgagaactg cgggtgaggt aagggccaca
660
gcctgacctg ctcatctatt gagggggcta gggaagggtg caggggttga ggggccaggc
720
ccaacctccc cactccacag ttggcacagg ttctccctgc ttggcagctt ctatcgtggg
780
cagccctctg gggacttgca ggggtagggt taaagggtgc agtactgggg ctgggctggg
840
gaccagtctc tagcaccaca ctctgagcca agggggctct ggggatgagg ctagagtccc
900

```


gtgtgccttc ggttcctagg ccccaaattc ctctcctggg gctgtggcaa gccagtggt
 960
 ggcacctccc ttggccaggc acagacacac aaacaccaca cacgtggggc cagggaaacac
 1020
 tcagaggagc cgtcccatgg caggcagacg ggatggcagg gcagcgggtg cctccatcct
 1080
 gggccacagg aaccctgctc agccttgtct ataccttgtg cacctgaggg ggtagctcat
 1140
 cctccgagcc ctcttcgggc acgggctcag ggtgccttga tgccgactgc ccatcttctg
 1200
 cccaccctcc aagaggcagc cgagagaaat gagagggaac cctgggcact gtgccaggat
 1260
 ctgtgatgcc accgtagcgc ctctggaagc ccccatgcag ggcgggtggc tcaggagctc
 1320
 caggccgggg tgctgcacag ggatagctag cagagcgagg gatagactgg ggggcccggg
 1380
 cgccctctcc cccttcatca ggggcgcttt ctccactctc atcactctcc cggcgggtgcc
 1440
 atacatgccg ctccaggttca gcctgggcct gctgcttgtg gagctgggtc atatagaggg
 1500
 catgcaggct catctctgtg gatgcatatt ctgacagcac caggctctgc agctgtcctt
 1560
 cccacacgct gctcccgagg ctggctgtcc tggcatccac cccagagcct gtcatgggtc
 1620
 tgtgagcccg gcctgtgggc gcctgcccgg gttgcagcgg ggagaaggag cgcagggcag
 1680
 aggcgacttc agccctgtgc ctggagccct gcaggctctc gggcagtgga gggccccggc
 1740
 aggatgagcc agctaccaca tttgcgataa ggctcagggg ctccagactca gattgtaagg
 1800
 actggataga cgtaaaggag gcattttcag ggagcagacc cccttggggc aggctagcag
 1860
 ctgtccatc ccgctgaacc tgctccttga ggaagcctag g
 1901

<210> 3786

<211> 168

<212> PRT

<213> Homo sapiens

<400> 3786

Met	Thr	Gly	Ser	Gly	Val	Asp	Ala	Arg	Thr	Ala	Ser	Ser	Gly	Ser	Ser
1				5					10					15	
Val	Trp	Glu	Gly	Gln	Leu	Gln	Ser	Leu	Val	Leu	Ser	Glu	Tyr	Ala	Ser
		20						25					30		
Thr	Glu	Met	Ser	Leu	His	Ala	Leu	Tyr	Met	His	Gln	Leu	His	Lys	Gln
		35					40				45				
Gln	Ala	Gln	Ala	Glu	Pro	Glu	Arg	His	Val	Trp	His	Arg	Arg	Glu	Ser
	50					55					60				
Asp	Glu	Ser	Gly	Glu	Ser	Ala	Pro	Asp	Glu	Gly	Gly	Glu	Gly	Ala	Arg
65					70				75					80	
Ala	Pro	Gln	Ser	Ile	Pro	Arg	Ser	Ala	Ser	Tyr	Pro	Cys	Ala	Ala	Pro
				85				90					95		
Arg	Pro	Gly	Ala	Pro	Glu	Thr	Thr	Ala	Leu	His	Gly	Gly	Phe	Gln	Arg

```

          100          105          110
Arg Tyr Gly Gly Ile Thr Asp Pro Gly Thr Val Pro Arg Val Pro Ser
          115          120          125
His Phe Ser Arg Leu Pro Leu Gly Gly Trp Ala Glu Asp Gly Gln Ser
          130          135          140
Ala Ser Arg His Pro Glu Pro Val Pro Glu Glu Gly Ser Glu Asp Glu
145          150          155          160
Leu Pro Pro Gln Val His Lys Val
          165

```

<210> 3787

<211> 717

<212> DNA

<213> Homo sapiens

<400> 3787

```

gcggtttgtcc agtattattc aaatgaccgg acataatgaa ggatggcgac aggacgaagg
60
cttctgcctt aagattttctc tcatctcgtt tttaccatct tgtcttcgtg gccctcactt
120
gtggttgtgt ctgctgtggt gttatggaca ctgctagtgt taatacagca caataagaaa
180
gtgtgaaagg ggccgggaaa ggtggcgagg gcggggcggc acgtgggttc ccctcacagc
240
actgtgcacg gtgcctgctt gggttcctcc atgtggacca gcaccgctga gcggccactc
300
tgcgccaggc actgttcatg ggtgatcacg gcagccccct tattacagac aagcaaactg
360
gggcttagcc agctcaggag gctcgcaggt aggtggggga gcctggagct gaaccaggc
420
gtctgaccca ggtgctcccc cttagccacc tgctccatg agcacttggc accccagggc
480
cccgggggtg ctgcacgtga gccgtggcgt agcttaatcg acgcgcacaa ggattccgtg
540
tattcagtgt ttattgaggc tgtgttttga agcatgccat tgatagggtg aacataacat
600
ttttcttaga ataaaagcac attccataca ctctactgtg gcagaataag gaggttcaca
660
gataattgag agaagctacc gaaacgtgct gttttctgaa ggtctccctt cacgcgt
717

```

<210> 3788

<211> 113

<212> PRT

<213> Homo sapiens

<400> 3788

```

Met Leu Gln Asn Thr Ala Ser Ile Asn Thr Glu Tyr Thr Glu Ser Leu
  1          5          10          15
Cys Ala Ser Ile Lys Leu Arg His Gly Ser Arg Ala Ala Pro Pro Gly
          20          25          30
Pro Trp Gly Ala Lys Cys Ser Trp Arg Gln Val Ala Lys Gly Glu His
          35          40          45
Leu Gly Gln Thr Pro Gly Phe Ser Ser Arg Leu Pro His Leu Pro Ala

```

50		55		60	
Ser	Leu	Leu	Ser	Trp	Leu
65		70		75	
Ala	Ala	Val	Ile	Thr	His
		85		90	
Ala	Val	Leu	Val	His	Met
		100		105	
Leu					

<210> 3789

<211> 4341

<212> DNA

<213> Homo sapiens

<400> 3789

```

ngaattcatt ttcaaaggag gcgaactacc tgtgccctaa ccttggaagc tggagaaaag
60
ttactgctca caactgacct gaaaactaaa gagtctgtgg gtaggagaat cagtcaactt
120
caggacagct ggaaagacat ggagccccag ctggcagaga tgattaagca gttccagagc
180
actgtagaga cctgggacca gtgtgaaaag aaaatcaagg agttgaaaag caggctgcaa
240
gtttttaaagg cacaagtga agatcctctt ccagagcttc acgaggacct ccataacgaa
300
aaagagctga ttaaggaact agaacagtct ttggctagct ggactcagaa cttgaaagaa
360
cttcaaacta tgaaggcgga ctttaaccgg cacgttctcg tggaagatgt gatgggtttg
420
aaggagcaaa tagagcattt gcacagacaa tgggaggacc tctgcttaag ggtggccata
480
cgtaaacagg agattgaaga cagactcaat acatgggttg tattcaatga aaaaaataaa
540
gagttgtgtg cctggctggg gcagatggaa acaaaagttc tacagacagt ggacattagt
600
attgaagaaa tgattgaaaa gttacagaag gactgcatgg aagaaataaa cttgtttagt
660
gaaaacaagt tacagttaaa gcagatgggt gaccagttga tcaaggccag caacaaatca
720
agagcagctg agatcgatga caagctcaac aaaattaacg atcgttggca acatcttttt
780
gatgtcatcg gatcaagggt gaagaagctg aaggagacct ttgcttttat tcagcagttg
840
gacaaaaaca tgagcaacct tcgcacctgg ttggctcgaa ttgagtctga gctttccaag
900
cctgttggtt atgatgtctg cgatgatcaa gagatccaga agaggctcgc tgagcagcag
960
gatctacagc gagatattga acaacacagc gcaggggtgg agtccgtggt taacatctgt
1020
gacgtcctac tgcacgactc cgatgcctgt gcaaatgaga ccgagtgtga ctcgatccag
1080
cagaccacca ggagcctgga cagacgctgg aggaacattt gtgccatgtc catggagcgg
1140

```

cgcatgaaaa tcgaggagac gtggcgcttg tggcagaagt ttttagacga ctattctcgc
1200
tttgaggact ggctcaagtc agctgagagg acggcagcct gcccaaattc ctcagaggtg
1260
ttgtacacga gtgccaaaga ggaactgaag aggtttgagg cctttcagcg gcagattcat
1320
gagcgggtca ctcagctgga gctcatcaac aagcagtacc ggcggtggc cggggagaac
1380
cgcacagaca cggccagcag gctgaagcag atgggccacg agggcaacca gcgctgggac
1440
aaccttcaga ggcggtcac agccgtcctg cggagactca ggcatttcac caaccagagg
1500
gaagaatttg agggcaccag ggagagcatt ctggtgtggc tcacagagat ggacctgcag
1560
ctgaccaacg tggagcactt ctcagagagt gacgccgatg acaagatgcg ccaactgaat
1620
ggcttccaac aggaaattac attaaatacc aacaagattg atcagctcat tgtgtttggg
1680
gagcagctga ttcagaagag cgagcccctg gatgctgtgc tgattgagga tgagctggag
1740
gaactccacc gctactgcca ggaggtgttt ggaagggctc cccggttcca cggcggtc
1800
acctcctgca ctccgggctt ggaagatgaa aaggaggcct ctgagaatga aacagacatg
1860
gaagaccca gagaaatcca gactgattct tggcgtaaac ggggagagag cgaggaaccg
1920
tcattctctc agtcctgtg tcattctagt gccccagggc acgagcggtc tggctgcgag
1980
acctctgtca gcgtggactc catccccctg gagtgggacc acacaggcga cgtggggggc
2040
tcctcctctc acgaagagga cgaggagggc ccatactaca gcgcactgtc aggtaaatcc
2100
atttcggatg gccactcgtg gcatgttccc gacagccctt cctgtcccga gcatcactac
2160
aagcaaatgg aaggtgacag gaatgttcca cctgttcccc ctgctccag cacccttat
2220
aaaccaccct atggaaagct actattacct ccaggcacgg atggtggcaa agaaggcccc
2280
cgagtcctga atggcaaccc acagcaggaa gacgggggac tggccggtat cacagagcag
2340
cagtcaggtg ccttcgacag atgggagatg attcaagcac aggagcttca caataagctc
2400
aaaataaaaac aaaatttgca acagctgaac tctgatatca gcgccatcac tacttggtg
2460
aaaaaaaactg aagcagagct ggaaatgtta aagatggcaa agcctcctc tgatatccag
2520
gaaatagaac tgagagtga gagactgcag gagatactga aagcctttga cacttacaag
2580
gcattagtgg tctctgtcaa cgtgagcagc aaggaatttc tgcaaaccga gagccccgaa
2640
tccacagagc tccaaagtag actccgccag ctgagcctgc tctgggaagc agcacagggc
2700
gcagtggaca gctggagagg gggcttacga cagtcgctca tgcaagtcca ggacttcac
2760

cagttgagtc aaaatctgct gctgtgggta gcgagtgcc aagaaccggag gcagaaggct
2820
catgtcaccg atccaaaggc agacccccgg gctctcctag agtgtcggag ggaactaatg
2880
caactggaaa aggagctggg agaacgtcaa cctcaagtgg acatgttaca ggagatttca
2940
aacagccttc tcattaaggg acatggagaa gactgtattg aagctgaaga aaagggtgcat
3000
gttattgaga agaaactcaa acagttacgg gagcaagtgt cccaagattt aatggccttg
3060
caggggaacc agaaccagc ctcacccctg ccagcttcg acgaggtaga ctcgggggac
3120
cagcctcctg caacatcctg gccagctccc cgagcaaagc agttcagagc agtgagaact
3180
acagaaggcg aggaggagac agagagcagg gtccccggca gcacacggcc acagcgctcc
3240
ttcctctcaa ggggtgggccc ggcagcccta cccctgcagc tgctcctcct gctgctgctg
3300
ctcctggcct gcctgctgcc ctctccgaa gaagactaca gctgcactca ggccaacaac
3360
tttgcccggt ccttttacct catgctgagg tacaccaatg ggccaccccc cacatagagg
3420
gcatagctgg ccacagtgt acaccacctg cctgattgcc aagggtgccc agcacgtggc
3480
cccagaccaa tctgagtgt ttagtggttg caagggtccc ggacctgtgc agacttcttc
3540
tgggcttacc cagcacgggc tccctggagc ccagggcagc tttcagattg tgttctccc
3600
caggagcagg gaacctgtgt ggcagggtgcc cgggtatatt tggcagaact agttgattag
3660
tttagggatc tctggaaatg tcagtttct gaagagccaa gcactttgtg aattctgggt
3720
tgtttgtaaa acagcattat tataatgtag gtatgggtcaa tgagcagtgg tgtccatcac
3780
atatattata gaagcaagcg agcacattcc accctagaaa tgggttcagaa actcataggc
3840
acccttagct gatggaaaca atcaatcata ttttaatacgc ttagaatcag ttttactcca
3900
atcagctggc aattttgagc tgccgggttat acaccaaagt gttctgttca gtacctagct
3960
ctgctctttt atattgcttt aaatttttaa agaaattata ttgcatggat gtgggttatt
4020
gtgcataatt ttttaacaatg cccaatctgt atgaataatg taaacttcga ttttttttta
4080
aaaaaattag attttagctg gagcttttga ctaatgtaaa gtaaatgcc aactaccgac
4140
ttgataggga tgtttttgta agttaatttt ctaagacttt ttccatcca aagtgtgct
4200
ttgctttggg ttttaactgt ttggccacgg cgggggtggg ggcggggggt tggtagaaa
4260
acttgaagct gtttgtgata tgtacaactc agatgtttct cattaaaaaa caaaattagc
4320
cagaaaaaaa aaaaaaaaaa a
4341

<210> 3790
 <211> 1092
 <212> PRT
 <213> Homo sapiens

<400> 3790

```

Met Glu Pro Gln Leu Ala Glu Met Ile Lys Gln Phe Gln Ser Thr Val
 1              5              10              15
Glu Thr Trp Asp Gln Cys Glu Lys Lys Ile Lys Glu Leu Lys Ser Arg
 20              25              30
Leu Gln Val Leu Lys Ala Gln Ser Glu Asp Pro Leu Pro Glu Leu His
 35              40              45
Glu Asp Leu His Asn Glu Lys Glu Leu Ile Lys Glu Leu Glu Gln Ser
 50              55              60
Leu Ala Ser Trp Thr Gln Asn Leu Lys Glu Leu Gln Thr Met Lys Ala
 65              70              75              80
Asp Leu Thr Arg His Val Leu Val Glu Asp Val Met Val Leu Lys Glu
 85              90              95
Gln Ile Glu His Leu His Arg Gln Trp Glu Asp Leu Cys Leu Arg Val
 100             105             110
Ala Ile Arg Lys Gln Glu Ile Glu Asp Arg Leu Asn Thr Trp Val Val
 115             120             125
Phe Asn Glu Lys Asn Lys Glu Leu Cys Ala Trp Leu Val Gln Met Glu
 130             135             140
Asn Lys Val Leu Gln Thr Val Asp Ile Ser Ile Glu Glu Met Ile Glu
 145             150             155             160
Lys Leu Gln Lys Asp Cys Met Glu Glu Ile Asn Leu Phe Ser Glu Asn
 165             170             175
Lys Leu Gln Leu Lys Gln Met Gly Asp Gln Leu Ile Lys Ala Ser Asn
 180             185             190
Lys Ser Arg Ala Ala Glu Ile Asp Asp Lys Leu Asn Lys Ile Asn Asp
 195             200             205
Arg Trp Gln His Leu Phe Asp Val Ile Gly Ser Arg Val Lys Lys Leu
 210             215             220
Lys Glu Thr Phe Ala Phe Ile Gln Gln Leu Asp Lys Asn Met Ser Asn
 225             230             235             240
Leu Arg Thr Trp Leu Ala Arg Ile Glu Ser Glu Leu Ser Lys Pro Val
 245             250             255
Val Tyr Asp Val Cys Asp Asp Gln Glu Ile Gln Lys Arg Leu Ala Glu
 260             265             270
Gln Gln Asp Leu Gln Arg Asp Ile Glu Gln His Ser Ala Gly Val Glu
 275             280             285
Ser Val Phe Asn Ile Cys Asp Val Leu Leu His Asp Ser Asp Ala Cys
 290             295             300
Ala Asn Glu Thr Glu Cys Asp Ser Ile Gln Gln Thr Thr Arg Ser Leu
 305             310             315             320
Asp Arg Arg Trp Arg Asn Ile Cys Ala Met Ser Met Glu Arg Arg Met
 325             330             335
Lys Ile Glu Glu Thr Trp Arg Leu Trp Gln Lys Phe Leu Asp Asp Tyr
 340             345             350
Ser Arg Phe Glu Asp Trp Leu Lys Ser Ala Glu Arg Thr Ala Ala Cys
 355             360             365
Pro Asn Ser Ser Glu Val Leu Tyr Thr Ser Ala Lys Glu Glu Leu Lys

```

```

      370      375      380
Arg Phe Glu Ala Phe Gln Arg Gln Ile His Glu Arg Leu Thr Gln Leu
385      390      395      400
Glu Leu Ile Asn Lys Gln Tyr Arg Arg Leu Ala Arg Glu Asn Arg Thr
      405      410      415
Asp Thr Ala Ser Arg Leu Lys Gln Met Val His Glu Gly Asn Gln Arg
      420      425      430
Trp Asp Asn Leu Gln Arg Arg Val Thr Ala Val Leu Arg Arg Leu Arg
      435      440      445
His Phe Thr Asn Gln Arg Glu Glu Phe Glu Gly Thr Arg Glu Ser Ile
      450      455      460
Leu Val Trp Leu Thr Glu Met Asp Leu Gln Leu Thr Asn Val Glu His
465      470      475      480
Phe Ser Glu Ser Asp Ala Asp Asp Lys Met Arg Gln Leu Asn Gly Phe
      485      490      495
Gln Gln Glu Ile Thr Leu Asn Thr Asn Lys Ile Asp Gln Leu Ile Val
      500      505      510
Phe Gly Glu Gln Leu Ile Gln Lys Ser Glu Pro Leu Asp Ala Val Leu
      515      520      525
Ile Glu Asp Glu Leu Glu Glu Leu His Arg Tyr Cys Gln Glu Val Phe
      530      535      540
Gly Arg Val Ser Arg Phe His Arg Arg Leu Thr Ser Cys Thr Pro Gly
545      550      555      560
Leu Glu Asp Glu Lys Glu Ala Ser Glu Asn Glu Thr Asp Met Glu Asp
      565      570      575
Pro Arg Glu Ile Gln Thr Asp Ser Trp Arg Lys Arg Gly Glu Ser Glu
      580      585      590
Glu Pro Ser Ser Pro Gln Ser Leu Cys His Leu Val Ala Pro Gly His
      595      600      605
Glu Arg Ser Gly Cys Glu Thr Pro Val Ser Val Asp Ser Ile Pro Leu
      610      615      620
Glu Trp Asp His Thr Gly Asp Val Gly Gly Ser Ser Ser His Glu Glu
625      630      635      640
Asp Glu Glu Gly Pro Tyr Tyr Ser Ala Leu Ser Gly Lys Ser Ile Ser
      645      650      655
Asp Gly His Ser Trp His Val Pro Asp Ser Pro Ser Cys Pro Glu His
      660      665      670
His Tyr Lys Gln Met Glu Gly Asp Arg Asn Val Pro Pro Val Pro Pro
      675      680      685
Ala Ser Ser Thr Pro Tyr Lys Pro Pro Tyr Gly Lys Leu Leu Leu Pro
      690      695      700
Pro Gly Thr Asp Gly Gly Lys Glu Gly Pro Arg Val Leu Asn Gly Asn
705      710      715      720
Pro Gln Gln Glu Asp Gly Gly Leu Ala Gly Ile Thr Glu Gln Gln Ser
      725      730      735
Gly Ala Phe Asp Arg Trp Glu Met Ile Gln Ala Gln Glu Leu His Asn
      740      745      750
Lys Leu Lys Ile Lys Gln Asn Leu Gln Gln Leu Asn Ser Asp Ile Ser
      755      760      765
Ala Ile Thr Thr Trp Leu Lys Lys Thr Glu Ala Glu Leu Glu Met Leu
      770      775      780
Lys Met Ala Lys Pro Pro Ser Asp Ile Gln Glu Ile Glu Leu Arg Val
785      790      795      800
Lys Arg Leu Gln Glu Ile Leu Lys Ala Phe Asp Thr Tyr Lys Ala Leu

```

370 375 380
 Arg Phe Glu Ala Phe Gln Arg Gln Ile His Glu Arg Leu Thr Gln Leu
 385 390 395 400
 Glu Leu Ile Asn Lys Gln Tyr Arg Arg Leu Ala Arg Glu Asn Arg Thr
 405 410 415
 Asp Thr Ala Ser Arg Leu Lys Gln Met Val His Glu Gly Asn Gln Arg
 420 425 430
 Trp Asp Asn Leu Gln Arg Arg Val Thr Ala Val Leu Arg Arg Leu Arg
 435 440 445
 His Phe Thr Asn Gln Arg Glu Glu Phe Glu Gly Thr Arg Glu Ser Ile
 450 455 460
 Leu Val Trp Leu Thr Glu Met Asp Leu Gln Leu Thr Asn Val Glu His
 465 470 475 480
 Phe Ser Glu Ser Asp Ala Asp Asp Lys Met Arg Gln Leu Asn Gly Phe
 485 490 495
 Gln Gln Glu Ile Thr Leu Asn Thr Asn Lys Ile Asp Gln Leu Ile Val
 500 505 510
 Phe Gly Glu Gln Leu Ile Gln Lys Ser Glu Pro Leu Asp Ala Val Leu
 515 520 525
 Ile Glu Asp Glu Leu Glu Glu Leu His Arg Tyr Cys Gln Glu Val Phe
 530 535 540
 Gly Arg Val Ser Arg Phe His Arg Arg Leu Thr Ser Cys Thr Pro Gly
 545 550 555 560
 Leu Glu Asp Glu Lys Glu Ala Ser Glu Asn Glu Thr Asp Met Glu Asp
 565 570 575
 Pro Arg Glu Ile Gln Thr Asp Ser Trp Arg Lys Arg Gly Glu Ser Glu
 580 585 590
 Glu Pro Ser Ser Pro Gln Ser Leu Cys His Leu Val Ala Pro Gly His
 595 600 605
 Glu Arg Ser Gly Cys Glu Thr Pro Val Ser Val Asp Ser Ile Pro Leu
 610 615 620
 Glu Trp Asp His Thr Gly Asp Val Gly Gly Ser Ser Ser His Glu Glu
 625 630 635 640
 Asp Glu Glu Gly Pro Tyr Tyr Ser Ala Leu Ser Gly Lys Ser Ile Ser
 645 650 655
 Asp Gly His Ser Trp His Val Pro Asp Ser Pro Ser Cys Pro Glu His
 660 665 670
 His Tyr Lys Gln Met Glu Gly Asp Arg Asn Val Pro Pro Val Pro Pro
 675 680 685
 Ala Ser Ser Thr Pro Tyr Lys Pro Pro Tyr Gly Lys Leu Leu Leu Pro
 690 695 700
 Pro Gly Thr Asp Gly Gly Lys Glu Gly Pro Arg Val Leu Asn Gly Asn
 705 710 715 720
 Pro Gln Gln Glu Asp Gly Gly Leu Ala Gly Ile Thr Glu Gln Gln Ser
 725 730 735
 Gly Ala Phe Asp Arg Trp Glu Met Ile Gln Ala Gln Glu Leu His Asn
 740 745 750
 Lys Leu Lys Ile Lys Gln Asn Leu Gln Gln Leu Asn Ser Asp Ile Ser
 755 760 765
 Ala Ile Thr Thr Trp Leu Lys Lys Thr Glu Ala Glu Leu Glu Met Leu
 770 775 780
 Lys Met Ala Lys Pro Pro Ser Asp Ile Gln Glu Ile Glu Leu Arg Val
 785 790 795 800
 Lys Arg Leu Gln Glu Ile Leu Lys Ala Phe Asp Thr Tyr Lys Ala Leu

805 810 815
 Val Val Ser Val Asn Val Ser Ser Lys Glu Phe Leu Gln Thr Glu Ser
 820 825 830
 Pro Glu Ser Thr Glu Leu Gln Ser Arg Leu Arg Gln Leu Ser Leu Leu
 835 840 845
 Trp Glu Ala Ala Gln Gly Ala Val Asp Ser Trp Arg Gly Gly Leu Arg
 850 855 860
 Gln Ser Leu Met Gln Cys Gln Asp Phe His Gln Leu Ser Gln Asn Leu
 865 870 875 880
 Leu Leu Trp Leu Ala Ser Ala Lys Asn Arg Arg Gln Lys Ala His Val
 885 890 895
 Thr Asp Pro Lys Ala Asp Pro Arg Ala Leu Leu Glu Cys Arg Arg Glu
 900 905 910
 Leu Met Gln Leu Glu Lys Glu Leu Val Glu Arg Gln Pro Gln Val Asp
 915 920 925
 Met Leu Gln Glu Ile Ser Asn Ser Leu Leu Ile Lys Gly His Gly Glu
 930 935 940
 Asp Cys Ile Glu Ala Glu Glu Lys Val His Val Ile Glu Lys Lys Leu
 945 950 955 960
 Lys Gln Leu Arg Glu Gln Val Ser Gln Asp Leu Met Ala Leu Gln Gly
 965 970 975
 Thr Gln Asn Pro Ala Ser Pro Leu Pro Ser Phe Asp Glu Val Asp Ser
 980 985 990
 Gly Asp Gln Pro Pro Ala Thr Ser Val Pro Ala Pro Arg Ala Lys Gln
 995 1000 1005
 Phe Arg Ala Val Arg Thr Thr Glu Gly Glu Glu Thr Glu Ser Arg
 1010 1015 1020
 Val Pro Gly Ser Thr Arg Pro Gln Arg Ser Phe Leu Ser Arg Val Val
 1025 1030 1035 1040
 Arg Ala Ala Leu Pro Leu Gln Leu Leu Leu Leu Leu Leu Leu Leu
 1045 1050 1055
 Ala Cys Leu Leu Pro Ser Ser Glu Glu Asp Tyr Ser Cys Thr Gln Ala
 1060 1065 1070
 Asn Asn Phe Ala Arg Ser Phe Tyr Pro Met Leu Arg Tyr Thr Asn Gly
 1075 1080 1085
 Pro Pro Pro Thr
 1090

<210> 3791

<211> 1011

<212> DNA

<213> Homo sapiens

<400> 3791

tgatcaggtc acacacacgg tatactgtgt ctggcagctc atcaagacgg tggaagcagc
 60
 ctggcaacat agtatctgtg aaagtgtgga gctcatcttg ttccaacggg tcagcatccc
 120
 tgaaccttct ttaaaccattt agcctcttcc tcctcctgct tttcccgagc tttccgttcc
 180
 tcttctcct tccggcaagc aacttctca ggtgactctg ccctttgatc cattggaata
 240
 tcctgtccca gagacatagc aattgctctc atcatctggt cctcttcaga catgctgaga
 300

tcccgaacaa ctctcccat gattggagga ggggtgggtta aaaggtactc tgtggcctgc
 360
 tccatggtgc tgggtgttcaa cagtgcctcc attgcatgtt cccttgtgaa gcccattgcc
 420
 atgagctggt gcagttgttg ctgggtgact tgagggtccc ggcgggagcc accttctct
 480
 tgccctgtat cctcttctcc tcgagacccc tcttctcct tgcctagtct ctctcgaatc
 540
 acaggttctc ctccgaggat gtggcataga atggccagca tcgattcagc cattcgtcca
 600
 ccatatacct tcaggggttt ccgggtccat aagtttttga tgcaagtaaa ggctgcttcc
 660
 tgagttacca caaggaagcg cagtgcactg aactggggaa agttctggac acctccaggc
 720
 aatttggcag gcagcgaatg tggagattca agcaccgtgg tgggattcac catcttctcc
 780
 accagcataa gccaggcatc taggaattct cctgtgccat caggcaagtc tgagtgttcc
 840
 aatccctcag aaacaggaac ttacctccc atggacagag ccagttgaa agtttcaaaa
 900
 agagcattgt ggcctccgga gcagagaaat ttttgagca tgagggtgta gggatacttc
 960
 ctctcatcaa acagcattgg ggatgtgaaa ccaactgaac agatgaagaa t
 1011

<210> 3792

<211> 288

<212> PRT

<213> Homo sapiens

<400> 3792

Met	Leu	Phe	Asp	Glu	Arg	Lys	Tyr	Pro	Tyr	His	Leu	Met	Leu	Gln	Lys
1				5				10						15	
Phe	Leu	Cys	Ser	Gly	Gly	His	Asn	Ala	Leu	Phe	Glu	Thr	Phe	Asn	Trp
			20					25					30		
Ala	Leu	Ser	Met	Gly	Gly	Lys	Val	Pro	Val	Ser	Glu	Gly	Leu	Glu	His
		35				40						45			
Ser	Asp	Leu	Pro	Asp	Gly	Thr	Gly	Glu	Phe	Leu	Asp	Ala	Trp	Leu	Met
	50				55					60					
Leu	Val	Glu	Lys	Met	Val	Asn	Pro	Thr	Thr	Val	Leu	Glu	Ser	Pro	His
65				70						75				80	
Ser	Leu	Pro	Ala	Lys	Leu	Pro	Gly	Gly	Val	Gln	Asn	Phe	Pro	Gln	Phe
			85					90					95		
Ser	Ala	Leu	Arg	Phe	Leu	Val	Val	Thr	Gln	Lys	Ala	Ala	Phe	Thr	Cys
		100					105					110			
Ile	Lys	Asn	Leu	Trp	Asn	Arg	Lys	Pro	Leu	Lys	Val	Tyr	Gly	Gly	Arg
	115				120							125			
Met	Ala	Glu	Ser	Met	Leu	Ala	Ile	Leu	Cys	His	Ile	Leu	Arg	Gly	Glu
	130				135						140				
Pro	Val	Ile	Arg	Glu	Arg	Leu	Ser	Lys	Glu	Lys	Glu	Gly	Ser	Arg	Gly
145			150						155					160	
Glu	Glu	Asp	Thr	Gly	Gln	Glu	Glu	Gly	Gly	Ser	Arg	Arg	Glu	Pro	Gln
			165					170					175		
Val	Asn	Gln	Gln	Gln	Leu	Gln	Gln	Leu	Met	Asp	Met	Gly	Phe	Thr	Arg

<210> 3795
<211> 1341

<212> DNA

<213> Homo sapiens

<400> 3795

aactgcctgt acaagaaggg ccctgatggc tatgaccccc agttcataac caagctgctc
60
cgcaactaca ggtctcatcc caccatcctg gacattccta accagctcta ttatgaaggg
120
gagctgcagg cctgtgctga tgtcgtggat cgagaacgct tctgccgctg ggcgggccta
180
cctcgacagg gctttcccat catctttcac ggcgtaatgg gcaaagatga gcgtgaaggg
240
aacagcccat ccttcttcaa ccctgaagag gctgccacag tgacttccta cctgaagctg
300
ctcctggccc cctcctcaa gaagggcaaa gcccgctga gccctcgaag tgtgggcgtc
360
atctccccgt accggaaaca ggtggagaaa atccgttact gcatcaccaa acttgacagg
420
gagcttcgag gactggatga catcaaggac ttgaagggtg gttcagtaga agaattccaa
480
ggccaagaac gaagcgtcat cctcatctcc accgtgcgaa gcagccagag ctttgtgcag
540
ctggatctgg actttaatct gggtttcctt aagaacccca agaggttcaa tgtagctgtg
600
accggggcca aggcctgct catcatcgtg gggaaccccc ttctcctggg ccatgaccct
660
gactggaaag tattcctgga gttctgtaaa gaaaacggag ggtataccgg gtgtcccttc
720
cctgccaaac tggacctgca acagggacag aatttactgc aaggctctgag caagctcagc
780
ccctctacct cagggcccca cagccatgac tacctcccc aggagcggga ggggaaggg
840
ggcctgtctc tgcaagtgga gccagagtgg aggaatgagc tctgaagaca cagcaccag
900
ccttctcgca ccagccaagc cttaactgcc tgctgacct tgaaccagaa ccagctgaa
960
ctgccccctc aaggacagc aaggctgggg gagggagttt acaaccaag ccattccacc
1020
ccctccccctg ctggggagaa tgacacatca agctgctaac aattggggga aggggaagga
1080
agaaaactct gaaaacaaaa tcttgttcta tgcaaaagcc ttgataatgt ctctctgccc
1140
tggccccagc ttctgagcc cctaagctga ccctgtaggg aagggtggga ctttcagccc
1200
tgctgagggt cccatcccct tccagtggga gaggaacca gccccacac tcgggggagg
1260
aaacccagtg ggaggtggca ggaagccac ccacaggttt ctaagtttag ccccctgcta
1320
cagaccactc ccttcacgcg t
1341

<210> 3796

<211> 294

<212> PRT

<213> Homo sapiens

<400> 3796

```

Asn Cys Leu Tyr Lys Lys Gly Pro Asp Gly Tyr Asp Pro Gln Phe Ile
 1           5           10           15
Thr Lys Leu Leu Arg Asn Tyr Arg Ser His Pro Thr Ile Leu Asp Ile
      20           25           30
Pro Asn Gln Leu Tyr Tyr Glu Gly Glu Leu Gln Ala Cys Ala Asp Val
      35           40           45
Val Asp Arg Glu Arg Phe Cys Arg Trp Ala Gly Leu Pro Arg Gln Gly
      50           55           60
Phe Pro Ile Ile Phe His Gly Val Met Gly Lys Asp Glu Arg Glu Gly
      65           70           75           80
Asn Ser Pro Ser Phe Asn Pro Glu Glu Ala Ala Thr Val Thr Ser
      85           90           95
Tyr Leu Lys Leu Leu Leu Ala Pro Ser Ser Lys Lys Gly Lys Ala Arg
      100          105          110
Leu Ser Pro Arg Ser Val Gly Val Ile Ser Pro Tyr Arg Lys Gln Val
      115          120          125
Glu Lys Ile Arg Tyr Cys Ile Thr Lys Leu Asp Arg Glu Leu Arg Gly
      130          135          140
Leu Asp Asp Ile Lys Asp Leu Lys Val Gly Ser Val Glu Glu Phe Gln
      145          150          155          160
Gly Gln Glu Arg Ser Val Ile Leu Ile Ser Thr Val Arg Ser Ser Gln
      165          170          175
Ser Phe Val Gln Leu Asp Leu Asp Phe Asn Leu Gly Phe Leu Lys Asn
      180          185          190
Pro Lys Arg Phe Asn Val Ala Val Thr Arg Ala Lys Ala Leu Leu Ile
      195          200          205
Ile Val Gly Asn Pro Leu Leu Leu Gly His Asp Pro Asp Trp Lys Val
      210          215          220
Phe Leu Glu Phe Cys Lys Glu Asn Gly Gly Tyr Thr Gly Cys Pro Phe
      225          230          235          240
Pro Ala Lys Leu Asp Leu Gln Gln Gly Gln Asn Leu Leu Gln Gly Leu
      245          250          255
Ser Lys Leu Ser Pro Ser Thr Ser Gly Pro His Ser His Asp Tyr Leu
      260          265          270
Pro Gln Glu Arg Glu Gly Glu Gly Gly Leu Ser Leu Gln Val Glu Pro
      275          280          285
Glu Trp Arg Asn Glu Leu
      290

```

<210> 3797

<211> 1970

<212> DNA

<213> Homo sapiens

<400> 3797

```

nnggaaccgc ccgctgccag cccggccagg cacccttgca gcatggcctg gaacaccaac
60
ctccgctggc ggctgcgct cacctgcctg ctctgcagg tgattatggt gattctcttc
120
ggggtgttcg tgcgctacga cttcgaggcc gacgccact ggtggtcaga gaggacgcac
180

```

aagaacttga gcgacatgga gaacgaattc tactatcgct acccaagctt ccaggacgtg
240
cacgtgatgg tcttcgtggg cttcggcttc ctcatgactt tcctgcagcg ctacggcttc
300
agcgccgtgg gcttcaactt cctgttggca gccttcggca tccagtgggc gctgctcatg
360
cagggctggg tccacttctt acaagaccgc tacatcgctg tgggcgtgga gaacctcatc
420
aacgctgact tctgcgtggc ctctgtctgc gtggcctttg gggcagttct gggtaaagtc
480
agccccattc agctgctcat catgactttc ttccaagtga ccctcttcgc tgtgaatgag
540
ttcattctcc ttaacctgct aaagggtgaag gatgcaggag gctccatgac catccacaca
600
tttggcgctt actttgggct cacagtgacc cggatcctct accgacgcaa cctagagcag
660
agcaaggaga gacagaattc tgtgtaccag tcggacctct ttgccatgat tggcaccctc
720
ttcctgtgga tgtactggcc cagcttcaac tcagccatat cctaccatgg ggacagccag
780
caccgagccg ccatcaacac ctactgctcc ttggcagcct gcgtgcttac ctcggtggca
840
atatccagtg ccctgcacaa gaagggcaag ctggacatgg tgcacatcca gaatgccacg
900
ctcgcaggag ggggtggcgt gggtagcgct gctgagatga tgctcatgcc ttacggtgcc
960
ctcatcatcg gcttcgtctg cggcatcatc tccaccctgg gttttgtata cctgacccca
1020
ttcctggagt cccggctgca catccaggac acatgtggca ttaacaatct gcatggcatt
1080
cctggcatca taggcggcat cgtgggtgct gtgacagcgg cctccgccag ccttgaagtc
1140
tatggaaaag aagggtctgt ccattccttt gactttcaag gtttcaacgg ggactggacc
1200
gcaagaacac agggaaagtt ccagatttat ggtctcttgg tgaccctggc catggccctg
1260
atgggtggca tcattgtggg gctcattttg agattaccat tctggggaca accttcagat
1320
gagaactgct ttgaggatgc ggtctactgg gagatgcctg aagggaacag cactgtctac
1380
atccctgagg accccacctt caagccctca ggaccctcag taccctcagt acccatggtg
1440
tccccactac ccatggcttc ctcggtaccc ttggtaccct aggctcccag ggcaggtgag
1500
gagcaggctc cacagactgt cctggggccc agaggagctg gtgctgacct agctagggat
1560
gcaagagtga gcaagcagca cccccacctg ctggcttggc ctcaaggtgc ctccaccct
1620
gccctccctt tcatcccagg gggctctgct gagaatggag aaggagaagc taaaaagtgg
1680
gcatccaagc cgggttcttg ctgcagaagt tctgcctctg cctggggtct tggccacatt
1740
ggagaaaaac aggctcaaag tggggctggg acctggtggg tgaacctgag ctctcccagg
1800

agacaactta gctgccagtc accacctatg aggetcttct accccgtgcc tgcacctcgg
 1860
 ccagcatctc ctatgctccc tgggtccccc agacctctct gtgttggtg cgtggcagcc
 1920
 tccaggaata aacattcttg ttgtcctttg taaaaaaaa aaaaaaaaaa
 1970

<210> 3798

<211> 473

<212> PRT

<213> Homo sapiens

<400> 3798

Leu	Arg	Trp	Arg	Leu	Pro	Leu	Thr	Cys	Leu	Leu	Leu	Gln	Val	Ile	Met
1				5					10					15	
Val	Ile	Leu	Phe	Gly	Val	Phe	Val	Arg	Tyr	Asp	Phe	Glu	Ala	Asp	Ala
			20					25					30		
His	Trp	Trp	Ser	Glu	Arg	Thr	His	Lys	Asn	Leu	Ser	Asp	Met	Glu	Asn
			35				40					45			
Glu	Phe	Tyr	Tyr	Arg	Tyr	Pro	Ser	Phe	Gln	Asp	Val	His	Val	Met	Val
	50					55				60					
Phe	Val	Gly	Phe	Gly	Phe	Leu	Met	Thr	Phe	Leu	Gln	Arg	Tyr	Gly	Phe
65				70					75					80	
Ser	Ala	Val	Gly	Phe	Asn	Phe	Leu	Leu	Ala	Ala	Phe	Gly	Ile	Gln	Trp
			85					90						95	
Ala	Leu	Leu	Met	Gln	Gly	Trp	Phe	His	Phe	Leu	Gln	Asp	Arg	Tyr	Ile
			100					105					110		
Val	Val	Gly	Val	Glu	Asn	Leu	Ile	Asn	Ala	Asp	Phe	Cys	Val	Ala	Ser
		115					120					125			
Val	Cys	Val	Ala	Phe	Gly	Ala	Val	Leu	Gly	Lys	Val	Ser	Pro	Ile	Gln
	130					135					140				
Leu	Leu	Ile	Met	Thr	Phe	Phe	Gln	Val	Thr	Leu	Phe	Ala	Val	Asn	Glu
145				150					155					160	
Phe	Ile	Leu	Leu	Asn	Leu	Leu	Lys	Val	Lys	Asp	Ala	Gly	Gly	Ser	Met
			165					170						175	
Thr	Ile	His	Thr	Phe	Gly	Ala	Tyr	Phe	Gly	Leu	Thr	Val	Thr	Arg	Ile
			180					185						190	
Leu	Tyr	Arg	Arg	Asn	Leu	Glu	Gln	Ser	Lys	Glu	Arg	Gln	Asn	Ser	Val
		195					200					205			
Tyr	Gln	Ser	Asp	Leu	Phe	Ala	Met	Ile	Gly	Thr	Leu	Phe	Leu	Trp	Met
	210					215					220				
Tyr	Trp	Pro	Ser	Phe	Asn	Ser	Ala	Ile	Ser	Tyr	His	Gly	Asp	Ser	Gln
225					230					235				240	
His	Arg	Ala	Ala	Ile	Asn	Thr	Tyr	Cys	Ser	Leu	Ala	Ala	Cys	Val	Leu
			245					250						255	
Thr	Ser	Val	Ala	Ile	Ser	Ser	Ala	Leu	His	Lys	Lys	Gly	Lys	Leu	Asp
		260						265					270		
Met	Val	His	Ile	Gln	Asn	Ala	Thr	Leu	Ala	Gly	Gly	Val	Ala	Val	Gly
		275					280					285			
Thr	Ala	Ala	Glu	Met	Met	Leu	Met	Pro	Tyr	Gly	Ala	Leu	Ile	Ile	Gly
	290					295					300				
Phe	Val	Cys	Gly	Ile	Ile	Ser	Thr	Leu	Gly	Phe	Val	Tyr	Leu	Thr	Pro
305					310					315				320	
Phe	Leu	Glu	Ser	Arg	Leu	His	Ile	Gln	Asp	Thr	Cys	Gly	Ile	Asn	Asn

```

          325          330          335
Leu His Gly Ile Pro Gly Ile Ile Gly Gly Ile Val Gly Ala Val Thr
          340          345          350
Ala Ala Ser Ala Ser Leu Glu Val Tyr Gly Lys Glu Gly Leu Val His
          355          360          365
Ser Phe Asp Phe Gln Gly Phe Asn Gly Asp Trp Thr Ala Arg Thr Gln
          370          375          380
Gly Lys Phe Gln Ile Tyr Gly Leu Leu Val Thr Leu Ala Met Ala Leu
385          390          395          400
Met Gly Gly Ile Ile Val Gly Leu Ile Leu Arg Leu Pro Phe Trp Gly
          405          410          415
Gln Pro Ser Asp Glu Asn Cys Phe Glu Asp Ala Val Tyr Trp Glu Met
          420          425          430
Pro Glu Gly Asn Ser Thr Val Tyr Ile Pro Glu Asp Pro Thr Phe Lys
          435          440          445
Pro Ser Gly Pro Ser Val Pro Ser Val Pro Met Val Ser Pro Leu Pro
          450          455          460
Met Ala Ser Ser Val Pro Leu Val Pro
465          470

```

<210> 3799
 <211> 210
 <212> DNA
 <213> Homo sapiens

```

<400> 3799
tcgaggaact gctcggcctc cacatcccaa gcctcacctt ctccctgcat cacagagaga
60
agcaagcaga aggcccgag gagaaacaaga tccagctcct cctcctcttc ttccagttct
120
tctagctcct cttcttcttc ctcgtcctcc tcctcttctt ccagtgatgg ccggaagaag
180
cgggggaagt acaaggacaa gaggaggaag
210

```

<210> 3800
 <211> 70
 <212> PRT
 <213> Homo sapiens

```

<400> 3800
Ser Arg Asn Cys Ser Ala Ser Thr Ser Gln Ala Ser Pro Ser Pro Cys
1          5          10          15
Ile Thr Glu Arg Ser Lys Gln Lys Ala Arg Arg Arg Thr Arg Ser Ser
20          25          30
Ser Ser Ser Ser Ser Ser Ser Ser Ser Ser Ser Ser Ser Ser Ser
35          40          45
Ser Ser Ser Ser Ser Ser Ser Asp Gly Arg Lys Lys Arg Gly Lys Tyr
50          55          60
Lys Asp Lys Arg Arg Lys
65          70

```

<210> 3801
 <211> 4070

<212> DNA

<213> Homo sapiens

<400> 3801

ngctagcccg gcggaagca ctgacgtgtc tctcggcgga gctgctgtgc agtggaaacgc
60
gctgggcccgc gggcagcgtc gcctcacgcg gagcagagct gagctgaagc gggacccgga
120
gcccagcagc cgcgcgcat ggcaatcaaa tttctggaag tcatcaagcc cttctgtgtc
180
atcctgcccgc aaattcagaa gccagagagg aagattcagt ttaaggagaa agtgcgtgtg
240
accgctatca ccctctttat cttcttagtg tgctgccaga tccccctgtt tgggatcatg
300
tcttcagatt cagctgaccc tttctattgg atgagagtga ttctagcctc taacagaggg
360
acattgatgg agctagggat ctctcctatt gtcacgtctg gccttataat gcaactcttg
420
gctggcgcca agataattga agttggtgac accccaaaag accgagctct cttcaacgga
480
gccccaaagt tatttggcat gatcattact atcggccagt ctatcgtgta tgtgatgacc
540
gggatgtatg gggacccttc tgaaatgggt gctggaatth gcctgctaata catcattcag
600
ctctttgttg ctggtttgat tgtcctactt ttggatgagc tgctacagaa gggttacggc
660
ttgggggtctg ggatttccct ctttattgcc accaacatct gtgagaccat tgtctggaag
720
gccttttagtc ccactaccat taacactggc agaggtactg agtttgaggg tgcagtcata
780
gctctgttcc atttgttggc caccaggacg gacaaaagtc gagctttacg ggaggctttt
840
tatcggcaga acttacccaa cctcatgaat ctcatcgcca ccatctttgt ctttgagtg
900
gtcatctatt tccagggtct ccgagtggac ctgccaatca agtcggcccg ctaccgtggc
960
cagtacaaca cctatcccat caagctcttc tatacgtcca acatccccat catcctgcag
1020
tcggccctgg tgtccaacct ttatgttatt tcccaaatgc tctcagctcg atttagtggc
1080
aacttttttag taaatttact aggacagtgg tcggacacgt cttctggggg cccagcacgt
1140
gcttatccag ttggtggcct ttgctattac ctgtccctc cagaatcttt tggctccgtg
1200
ttagaagacc cgggtccatgc agttgtatac atagtgttca tgctgggctc ctgtgcattc
1260
ttctccaaaa cgtggattga ggtctcaggt tcctctgcca aagatgttgc aaagcagctg
1320
aaggagcagc agatggtgat gagaggccac cgagagacct ccatgggtcca tgaactcaac
1380
cggtagcatcc ccacagccgc ggcctttggg gggctgtgca tcggggccct ctcggtcctg
1440
gctgacttcc taggcgccat tgggtctgga accgggatcc tgctgcagc cacaatcacc
1500

taccagtact ttgagatctt cgtaaaggag caaagcgagg ttggcagcat gggggccctg
1560
ctcttctgag cccgtctccc ggacagggtg aggaagctgc tccagaagcg cctcggaagg
1620
ggagctctca tcatggcgcg tgctgctgcg gcatatggac ttttaataat gtttttgaat
1680
ttcgtattct ttcatccac tgtgtaaagt gctagacatt ttccaattta aaattttgct
1740
ttttatcctg gcactggcaa aaagaactgt gaaagtgaaa ttttattcag ccgactgcca
1800
gagaagtggg aatggtatag gattgtcccc aagtgtccat gtaacttttg ttttaacctt
1860
tgacacctct cagtgtgta tgcggtgca gccgtctcac ctgtttcccc acaaaggga
1920
tttctcactc tggttggaag cacaacact gaaatgtcta cgtttcattt tggcagtagg
1980
gtgtgaagct gggagcagat catgtatttc ccggagacat gggacctgct tggcatgtct
2040
ccttcacaat caggcggtgg aatatctggc ttaggactgt ttctctctaa gacaccattg
2100
ttttccctta ttttaaaagt gattttttta aggacagaac ttcttccaaa agagagggat
2160
ggctttccca gaagacactc ctggccatct gtggatttgt ctgtgcacct attggctctt
2220
ctagctgact cttctggttg ggcttagagt ctgcctgttt ctgctagctc cgtgtttagt
2280
ccacttgggt catcagctct gccaaagtga gcctggccaa gctaggtgga cagacccttg
2340
cagtgtgtc cgtttgtcca gattctgcca gtcactctg gacacgtctc ctgcagctg
2400
ccctagcaag gggagacatt gtggtagcta tcagacatgg acagaaactg acttagtgct
2460
cacaagcccc tacaccttct gggctgaaga tcaccagct gtgttcagaa ttttcttact
2520
gtgcttagga ctgcacgcaa gtgagcagac accaccgact tcctttctgc gtcaccagt
2580
tcgtcagcag agagaggaca gcacaggctc aagggttgta gtgaagtcag gttcggggtg
2640
catgggctgt ggtggtgttg atcagttgct ccagtgttg aaataagaag actcatgttt
2700
atgtctggaa taagtctgt ttgtgctgac aggtggccta ggtcctggag atgagcacc
2760
tctctctggc ctttagggag tccccctta ggacaggcac tgcccagcag caagggcagc
2820
agagttgggt gctaagatcc tgaggagctc gaggtttcga gctggcttta gacattggtg
2880
ggaccaagga tgttttgcag gatgccctga tcctaagaag ggggcctggg ggtgctgca
2940
gcctgtcggg gagacccac tctgacagtg ggcacacggc agcctgcaa gcacagggcc
3000
accgccacag cccggcagag gggcacactc tggagacctt gctggcagt gtagccagga
3060
aacagagtga ccaagggaca agaagggact tgcctaaagc caccagcaa ctcagcagca
3120

gaaccaagat gggccccagg ctctccata tggcccaggg cttaccaccc tatcacacgt
 3180
 ggccttgtct agaccagtc ctgagcaggg gagaggtctt tgagacctga tgcctccta
 3240
 cccacatggt tctcccactg ccctgtctgc tctgctgcta cagaggggca gggcctcccc
 3300
 cagcccacgc ttaggaatgc ttggcctctg gcaggcaggc agctgtaccc aagctgggtg
 3360
 gcagggggct ggaaggcacc aggcctcagg aggagcccca tagtcccgc tgcagcctgt
 3420
 aaccatcggc tgggccctgc aaggcccaca ctcacgcctt gtgggtgatg gtcacgggtg
 3480
 gtgggtgggg gctgacccca gcttccaggg gactgtcact gtggacgcca aaatggcata
 3540
 actgagataa ggtgaataag tgacaaataa agccagtttt ttacaaggta cttgatcatg
 3600
 ttctcttaat cttaaattag attttattcc caaaaaggcc agtgaggcgc aaagcttggt
 3660
 tgcagcttta tgtgtgtcaa aggcttggtt ggcgactca ggcattttgc ctggaaaagt
 3720
 tcccttctga tggatcatgtc aacctgggtgc tcacatttgt gataaagtga tatgggtgct
 3780
 gggccacatg tggagctgct gcagggtctt gcccgtagg cagagtgcac tggctgtccc
 3840
 gtgagaatgc agaggcctcc gctgagccag ggcgctgcc acccgtgga agagtgggaa
 3900
 ccttctagca ggagcctagg gcccataac tcgaagcctt ttgagcctca gctccagtac
 3960
 ccagctggtg attggagaag tcttaacttg gttgtgaggc tggcctcaga cccgacctgt
 4020
 agccaagcca gaaggaccca gtgtgtgtg ggtgggagtg gcaggcttgt
 4070

<210> 3802

<211> 476

<212> PRT

<213> Homo sapiens

<400> 3802

Met	Ala	Ile	Lys	Phe	Leu	Glu	Val	Ile	Lys	Pro	Phe	Cys	Val	Ile	Leu
1				5					10					15	
Pro	Glu	Ile	Gln	Lys	Pro	Glu	Arg	Lys	Ile	Gln	Phe	Lys	Glu	Lys	Val
			20					25					30		
Leu	Trp	Thr	Ala	Ile	Thr	Leu	Phe	Ile	Phe	Leu	Val	Cys	Cys	Gln	Ile
		35					40					45			
Pro	Leu	Phe	Gly	Ile	Met	Ser	Ser	Asp	Ser	Ala	Asp	Pro	Phe	Tyr	Trp
		50				55					60				
Met	Arg	Val	Ile	Leu	Ala	Ser	Asn	Arg	Gly	Thr	Leu	Met	Glu	Leu	Gly
65					70					75				80	
Ile	Ser	Pro	Ile	Val	Thr	Ser	Gly	Leu	Ile	Met	Gln	Leu	Leu	Ala	Gly
				85					90					95	
Ala	Lys	Ile	Ile	Glu	Val	Gly	Asp	Thr	Pro	Lys	Asp	Arg	Ala	Leu	Phe
				100					105				110		
Asn	Gly	Ala	Gln	Lys	Leu	Phe	Gly	Met	Ile	Ile	Thr	Ile	Gly	Gln	Ser

115	120	125
Ile Val Tyr Val Met Thr Gly	Met Tyr Gly Asp Pro Ser Glu Met Gly	
130	135	140
Ala Gly Ile Cys Leu Leu Ile Ile Ile Gln Leu Phe Val Ala Gly Leu		
145	150	155
Ile Val Leu Leu Leu Asp Glu Leu Leu Gln Lys Gly Tyr Gly Leu Gly		
165	170	175
Ser Gly Ile Ser Leu Phe Ile Ala Thr Asn Ile Cys Glu Thr Ile Val		
180	185	190
Trp Lys Ala Phe Ser Pro Thr Thr Ile Asn Thr Gly Arg Gly Thr Glu		
195	200	205
Phe Glu Gly Ala Val Ile Ala Leu Phe His Leu Leu Ala Thr Arg Thr		
210	215	220
Asp Lys Val Arg Ala Leu Arg Glu Ala Phe Tyr Arg Gln Asn Leu Pro		
225	230	235
Asn Leu Met Asn Leu Ile Ala Thr Ile Phe Val Phe Ala Val Val Ile		
245	250	255
Tyr Phe Gln Gly Phe Arg Val Asp Leu Pro Ile Lys Ser Ala Arg Tyr		
260	265	270
Arg Gly Gln Tyr Asn Thr Tyr Pro Ile Lys Leu Phe Tyr Thr Ser Asn		
275	280	285
Ile Pro Ile Ile Leu Gln Ser Ala Leu Val Ser Asn Leu Tyr Val Ile		
290	295	300
Ser Gln Met Leu Ser Ala Arg Phe Ser Gly Asn Phe Leu Val Asn Leu		
305	310	315
Leu Gly Gln Trp Ser Asp Thr Ser Ser Gly Gly Pro Ala Arg Ala Tyr		
325	330	335
Pro Val Gly Gly Leu Cys Tyr Tyr Leu Ser Pro Pro Glu Ser Phe Gly		
340	345	350
Ser Val Leu Glu Asp Pro Val His Ala Val Val Tyr Ile Val Phe Met		
355	360	365
Leu Gly Ser Cys Ala Phe Phe Ser Lys Thr Trp Ile Glu Val Ser Gly		
370	375	380
Ser Ser Ala Lys Asp Val Ala Lys Gln Leu Lys Glu Gln Gln Met Val		
385	390	395
Met Arg Gly His Arg Glu Thr Ser Met Val His Glu Leu Asn Arg Tyr		
405	410	415
Ile Pro Thr Ala Ala Ala Phe Gly Gly Leu Cys Ile Gly Ala Leu Ser		
420	425	430
Val Leu Ala Asp Phe Leu Gly Ala Ile Gly Ser Gly Thr Gly Ile Leu		
435	440	445
Leu Ala Val Thr Ile Ile Tyr Gln Tyr Phe Glu Ile Phe Val Lys Glu		
450	455	460
Gln Ser Glu Val Gly Ser Met Gly Ala Leu Leu Phe		
465	470	475

<210> 3803

<211> 345

<212> DNA

<213> Homo sapiens

<400> 3803

ccaagaggaa actccttgaa gaggtacag gaagaaacag gtgctaaaat gtctatcctg
60

ggcaaaggat caatgagaga taaagctaag gaagaagaac taaggaagag tggggaagcc
 120
 aaatatgccc acttgagtga tgagcttcat gtattaattg aagtgtttgc tccacctggg
 180
 gaagcttatt cacgtatgag tcatgcattg gaagagatta aaaaattcct ggttcttgac
 240
 tacaatgatg aaattcgtca ggaacaacta cgtgaattat cttacttaaa tggctcagag
 300
 gactctggtc gtggcagagg tattagaggc agagggatcc ggatt
 345

<210> 3804

<211> 115

<212> PRT

<213> Homo sapiens

<400> 3804

Pro	Arg	Gly	Asn	Ser	Leu	Lys	Arg	Leu	Gln	Glu	Glu	Thr	Gly	Ala	Lys
1				5				10						15	
Met	Ser	Ile	Leu	Gly	Lys	Gly	Ser	Met	Arg	Asp	Lys	Ala	Lys	Glu	Glu
			20					25					30		
Glu	Leu	Arg	Lys	Ser	Gly	Glu	Ala	Lys	Tyr	Ala	His	Leu	Ser	Asp	Glu
			35				40					45			
Leu	His	Val	Leu	Ile	Glu	Val	Phe	Ala	Pro	Pro	Gly	Glu	Ala	Tyr	Ser
			50			55					60				
Arg	Met	Ser	His	Ala	Leu	Glu	Glu	Ile	Lys	Lys	Phe	Leu	Val	Pro	Asp
65					70					75				80	
Tyr	Asn	Asp	Glu	Ile	Arg	Gln	Glu	Gln	Leu	Arg	Glu	Leu	Ser	Tyr	Leu
				85				90						95	
Asn	Gly	Ser	Glu	Asp	Ser	Gly	Arg	Gly	Arg	Gly	Ile	Arg	Gly	Arg	Gly
			100					105						110	
Ile	Arg	Ile													
			115												

<210> 3805

<211> 1923

<212> DNA

<213> Homo sapiens

<400> 3805

ataaaatttt taaaagggtgg ggggctggaa ctggcagagt ataagtggca ctgtgtgttg
 60
 ctgagctgaa ctccatgccc tgtgaacaat ataagcaaca gtccctgctat ttccactgac
 120
 aagagcccgt tgccctaccag atgccaggcc ctgtgcttcc tcctgccttt gaggttttgg
 180
 cttgtgatca accaggaggg aaacatggtt actgctcgcc aggaacctcg cctggctcctg
 240
 atttcctga cctgcgatgg tgacacctg actctcagtg cagcctacac aaaggaccta
 300
 ctactgcta tcaaaacgcc caccacaaat gcagtgcaca agtgcagagt gcacggcctg
 360
 gagatagagg gcagggactg tggcgaggcc gccgcccagt ggataaccag cttcctgaag
 420

tcacagccct accgcctggt gcacttcgag cctcacatgc gaccgagacg tcctcatcaa
480
atagcagact tggtccgacc caaggaccag attgcttact cagacaccag cccattcttg
540
atcctttctg aggcgtcgct ggcgatctc aactccaggc tagagaagaa agttaaagca
600
accaacttca ggcccaatat tgtaatttca ggatgcgatg tctatgcaga ggattcttgg
660
gatgagcttc ttattggtga cgtggaactg aaaaggggtga tggcttggtc cagatgcatt
720
ttaaccacag tggaccaga caccggtgtc atgagcagga aggaaccgct ggaaacactg
780
aagagttatc gccagtgtga cccttcagaa cgaaagttat atggaaaac accactcttt
840
gggcagtatt ttgtgctgga aaaccaggg accatcaaag tgggagacc tgtgtacctg
900
ctgggccagt aatgggaacc gtatgtcctg gaatattaga tgccctttta aaatgttctc
960
aaaaatgaca acacttgaag catgggtgtt cagaactgag acctctacat tttctttaaa
1020
tttgtgattt tcacattttt cgtcttttgg acttctgggtg tctcaatgct tcaatgtccc
1080
agtgcacaaa gtaaagaaat atagtctcaa taacttagta ggacttcagt aagtcactta
1140
aatgacaaga caggattctg aaaactcccc gtttaactga ttatggaata gttctttctc
1200
ctgcttctcc gtttatctac caagagcgca gacttgcac ctgtcactac cactcggttag
1260
agaaagagaa gaagagaaag aggaagagtg ggtgggctgg aagaatgtcc tagaatgtgt
1320
tattgccccct gttcatgagg tacgcaatga aaattaaatt gcaccccaaa tatggctgga
1380
atgccacttc cttttctctc tcaagccccg ggctagcttt tgaaatggca taaagactga
1440
ggtgaccttc aggaagcact gcagatatta attttccata gatctggatc tggccctgct
1500
gcttctcaga cagcattgga tttcctaaag gtgctcagga ggatgggtgt gtagtcatgg
1560
aggacccctg gatccttgcc attccctca gctaatacag gagtgtcctc tctccagttc
1620
cgggtgaaaa agttctgaat tctgtggagg agaagaaaag tgattcagtg atttcagata
1680
gactactgaa aacctttaaa gggggaaaag gaaagcatat gtcagttgtt taaaacccaa
1740
tatctatttt ttaactgatt gtataactct aagatctgat gaagtatatt ttttattgcc
1800
attttgtcct ttgattatat tgggaagttg actaaacttg aaaaatgttt ttaaaactgt
1860
gaataaatgg aagctacttt gaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa
1920
aaa
1923

<210> 3806

<211> 280
 <212> PRT
 <213> Homo sapiens

<400> 3806

```

Thr Pro Cys Pro Val Asn Asn Ile Ser Asn Ser Pro Ala Ile Ser Thr
 1           5           10           15
Asp Lys Ser Pro Leu Pro Thr Arg Cys Gln Ala Leu Cys Phe Leu Leu
 20           25           30
Pro Leu Arg Phe Trp Leu Val Ile Asn Gln Glu Gly Asn Met Val Thr
 35           40           45
Ala Arg Gln Glu Pro Arg Leu Val Leu Ile Ser Leu Thr Cys Asp Gly
 50           55           60
Asp Thr Leu Thr Leu Ser Ala Ala Tyr Thr Lys Asp Leu Leu Leu Pro
 65           70           75           80
Ile Lys Thr Pro Thr Asn Ala Val His Lys Cys Arg Val His Gly
 85           90           95
Leu Glu Ile Glu Gly Arg Asp Cys Gly Glu Ala Ala Ala Gln Trp Ile
 100          105          110
Thr Ser Phe Leu Lys Ser Gln Pro Tyr Arg Leu Val His Phe Glu Pro
 115          120          125
His Met Arg Pro Arg Arg Pro His Gln Ile Ala Asp Leu Phe Arg Pro
 130          135          140
Lys Asp Gln Ile Ala Tyr Ser Asp Thr Ser Pro Phe Leu Ile Leu Ser
 145          150          155          160
Glu Ala Ser Leu Ala Asp Leu Asn Ser Arg Leu Glu Lys Lys Val Lys
 165          170          175
Ala Thr Asn Phe Arg Pro Asn Ile Val Ile Ser Gly Cys Asp Val Tyr
 180          185          190
Ala Glu Asp Ser Trp Asp Glu Leu Leu Ile Gly Asp Val Glu Leu Lys
 195          200          205
Arg Val Met Ala Cys Ser Arg Cys Ile Leu Thr Thr Val Asp Pro Asp
 210          215          220
Thr Gly Val Met Ser Arg Lys Glu Pro Leu Glu Thr Leu Lys Ser Tyr
 225          230          235          240
Arg Gln Cys Asp Pro Ser Glu Arg Lys Leu Tyr Gly Lys Ser Pro Leu
 245          250          255
Phe Gly Gln Tyr Phe Val Leu Glu Asn Pro Gly Thr Ile Lys Val Gly
 260          265          270
Asp Pro Val Tyr Leu Leu Gly Gln
 275          280

```

<210> 3807
 <211> 372
 <212> DNA
 <213> Homo sapiens

<400> 3807

```

naccgctggc ggctgagcga ggtgaacgag gacttcagct tgtgccccag atacccccgt
60
gcggtgatcg tgccatactt ggtggacgat gatgccctgg cgcgcagcgc ccgcttccgt
120
cagggaggtc gcttcccggg gctcagctac caccgggctc ccagcggcag agggagcgcg
180

```

ccctccccac gctccgcccc tgggtggctg cgctctttct gggccttttc tttttggccc
 240
 ggtcaattcg cggegtagcc gctgccccaa ctctgcccc attctggtec cgcctctctc
 300
 ccgccttttc gctgggaagg gtatcacctt tctctggccc cgccttgac ggttcggggc
 360
 cccgcgaagc tt
 372

<210> 3808

<211> 85

<212> PRT

<213> Homo sapiens

<400> 3808

Xaa	Ala	Trp	Arg	Leu	Ser	Glu	Val	Asn	Glu	Asp	Phe	Ser	Leu	Cys	Pro
1				5					10					15	
Arg	Tyr	Pro	Arg	Ala	Val	Ile	Val	Pro	Tyr	Leu	Val	Asp	Asp	Asp	Ala
			20					25				30			
Leu	Ala	Arg	Ser	Ala	Arg	Phe	Arg	Gln	Gly	Gly	Arg	Phe	Pro	Val	Leu
		35				40					45				
Ser	Tyr	His	Pro	Ala	Pro	Ser	Gly	Arg	Gly	Ser	Ala	Pro	Ser	Pro	Arg
	50					55				60					
Ser	Ala	Pro	Gly	Trp	Leu	Arg	Pro	Phe	Trp	Ala	Phe	Ser	Phe	Trp	Pro
65					70				75						80
Gly	Gln	Phe	Ala	Ala											
					85										

<210> 3809

<211> 1221

<212> DNA

<213> Homo sapiens

<400> 3809

aaaacttttt tttttttttt tgttggtaca gattgtatat ttgcatgcct ggggggttacc
 60
 aggtgtacg catataaaca gggaggagc aggtctgag aacctgccag ggtgcctggg
 120
 ataagctgtg actttttgcc cctgatgcca taagtggag ggtcctctgc taaaacata
 180
 tggtagacac ttctccttct tttcatctgg tatcatgtat catctctcag atccaataag
 240
 aaaacattcc cagtccttc cctccctccc tagtaccaag gtcctcatct cagttttcat
 300
 ggggccatgg agggctgcct ctagtgatga gctggaatct taaggcctga aatagagcca
 360
 gactgcagca gtcccaagtc ctggagagct tcaagtaact gctcccgcgc agagccaata
 420
 aaggaattct ccaggaagg aggcaggcct cctacaccat cccgcagggt atacaggggc
 480
 actgcacca ggcccagcac ctccagcccg tggtccttgg cgcgtgttgc gccggcctcc
 540
 acagccaaca gtcctcgag ctgagacgct tggcatagaa gtgccacaac gcgtggccct
 600

gacccgacgt gggagctgcy gtagtcagt gctccacgc ggaaagcggc agccgcttcg
 660
 cccagctcct cgcgcagctc gcgggttcagc cgcctcctta ggcttctgtc ctgcgtgtcc
 720
 acgaatccgc cggggaagcc caggcgtcca tcgaagcgca tctgcatcag tatggcgtag
 780
 cgcagcggga tgcggccgaa gagcatccca gggcccggcg cgtagaggag agcgtaggta
 840
 ctctgttttg ctaattctgt cttaactctt cagctcagca agactactgg gctctctttg
 900
 gggttccctt ctctgtgcta tgccctcaga caataagcta gggcacttca tttgtttcgt
 960
 ttctctcatg gttcactatc cagtgtgcc tgttgtccaa tgcccgaaaa ccactgtttg
 1020
 gtacattttg tctgggtttc tagttaaggc aggaggataa atctgttgcc tgtttttcca
 1080
 tcatggccag aagcaaatc tgtatcatgt tctagtaatt ttcacaacta tcaaagttag
 1140
 tcttactaat cttttctcaa tacctaaagt tcaaatctc ttttgtcaat ctgttatcaa
 1200
 gtactgttat ttttccttaa g
 1221

<210> 3810

<211> 97

<212> PRT

<213> Homo sapiens

<400> 3810

Ala	Gly	Ile	Leu	Arg	Pro	Glu	Ile	Glu	Pro	Asp	Cys	Ser	Ser	Pro	Lys
1			5					10						15	
Ser	Trp	Arg	Ala	Ser	Ser	Asn	Cys	Ser	Arg	Ala	Glu	Pro	Ile	Lys	Glu
		20					25					30			
Phe	Ser	Arg	Lys	Val	Gly	Arg	Pro	Pro	Thr	Pro	Ser	Arg	Arg	Val	Tyr
		35				40					45				
Arg	Gly	Thr	Arg	Thr	Arg	Pro	Ser	Thr	Ser	Ser	Pro	Trp	Ser	Leu	Ala
		50				55					60				
Arg	Val	Ala	Pro	Ala	Ser	Thr	Ala	Asn	Ser	Ser	Ser	Ser	Ser	Asp	Ala
		65				70				75				80	
Trp	His	Arg	Ser	Ala	Thr	Thr	Arg	Gly	Pro	Asp	Pro	Thr	Trp	Glu	Leu
			85						90					95	

Arg

<210> 3811

<211> 296

<212> DNA

<213> Homo sapiens

<400> 3811

ggtaccctgg agatgggagc cagggtcgg tcaactgattg tgccccccac tgcccaggtt
 60
 cctgtcctta aggtcagaa ctgtagaccc tcaggcagac ccgttctccc ctaccagagg
 120

acaccacgcc agatatctgg gcagcagggga catctgacct ggggtgcttg ctggcagcac
 180
 tgcctggaca gcagggcctc cttagggcca cctcccaacc cagctaggga gcgtcttaag
 240
 gcctgccctc cctgctgggc ttgggtggga cgctcagggga caggcccctc acgcgt
 296

<210> 3812

<211> 94

<212> PRT

<213> Homo sapiens

<400> 3812

Met	Gly	Ala	Arg	Ala	Arg	Ser	Leu	Ile	Val	Pro	Pro	Thr	Ala	Gln	Val
1				5					10					15	
Pro	Val	Leu	Lys	Ala	Gln	Asn	Cys	Arg	Pro	Ser	Gly	Arg	Pro	Val	Leu
			20					25					30		
Pro	Tyr	Gln	Arg	Thr	Pro	Arg	Gln	Ile	Ser	Gly	Gln	Gln	Gly	His	Leu
		35					40					45			
Thr	Trp	Gly	Ala	Cys	Trp	Gln	His	Cys	Leu	Asp	Ser	Arg	Ala	Ser	Leu
	50					55					60				
Gly	Pro	Pro	Pro	Asn	Pro	Ala	Arg	Glu	Arg	Leu	Lys	Ala	Cys	Pro	Pro
65					70					75				80	
Cys	Trp	Ala	Trp	Val	Gly	Arg	Ser	Gly	Thr	Gly	Pro	Ser	Arg		
				85					90						

<210> 3813

<211> 1419

<212> DNA

<213> Homo sapiens

<400> 3813

agatctaagt ggtgggcccc ctctgagatg gtgactgtga gccccgagca aaacgaccgc
 60
 acccccttgg tgatggtgca tgggttttggg ggcggcgtgg gtctctggat cctcaacatg
 120
 gactcactga gtgcccgccg cacactgcac accttcgatc tgcttggtt cgggcgaagc
 180
 tcaaggccag cattcccaag ggaccgggag ggggctgagg atgagtttgt gacatcgata
 240
 gagacatggc gggagaccat ggggatcccc agcatgatcc tcctggggca cagtttggga
 300
 ggattcctgg ccacttctta ctcaatcaag taccctgata gagttaaaca cctcatcctg
 360
 gtggacccat ggggctttcc cctccgacca actaacccca gtgagatccg tgcaccccca
 420
 gcctgggtca aagccgtggc atctgtccta ggacgttcca atccattggc tgttcttcga
 480
 gtagctgggc cctggggggc tgggtctggtg cagcgattcc ggccggactt caaacgcaag
 540
 tttgcagact tctttgaaga tgataccata tcagagtata tttaccactg caacgcacag
 600
 aatcccagtg gtgagacagc attcaaagcc atgatggagt cctttggctg ggcccggcgc
 660

cctatgctgg agcgaattca cttgattcga aaagatgtgc ctatcactat gatctacggg
 720
 tccgacacct ggatagatac cagtacggga aaaaagggtga agatgcagcg gccggattcc
 780
 tatgtccgag acatggagat taaggggtgcc tcccaccatg tctatgctga ccagccacac
 840
 atcttcaatg ctgtgggtgga ggagatctgc gactcagttg attgagctgc tctctgaaga
 900
 ggaagaggag aaagccagag agtcactctt acctccctgt ctgcttactc acccactctg
 960
 tcctttcctc accaactaac atgtgccagc caggcagagt cttgtactgt tcccagaaca
 1020
 ggacgacagt gaaaagaaca ctcttgaccc tacactgaag gctgaaggca gaagccacaa
 1080
 gaggccttga gtgccacccc caggggaagaa cataaagggt tgcacaatgc cacccatcca
 1140
 ctcttgcca agtggtaccc agatgggtgga ggatgtgaag ggattgcacc aagccacatt
 1200
 cactctctct gtggcctttc ttcctctggg caaagaaggg cttccagtgg cctttcctca
 1260
 ctctgtagtg tttgtgggga taggttccat gcaagaacac cttcctctc catccccac
 1320
 ttcaccccat cccataccag ttccatccag ggtctgctta actgccaaga gcaggtcctg
 1380
 gagttccctt cacctgcaga gtccttttca tgacctagg
 1419

<210> 3814

<211> 294

<212> PRT

<213> Homo sapiens

<400> 3814

Arg	Ser	Lys	Trp	Trp	Ala	Pro	Ser	Glu	Met	Val	Thr	Val	Ser	Pro	Glu
1			5					10						15	
Gln	Asn	Asp	Arg	Thr	Pro	Leu	Val	Met	Val	His	Gly	Phe	Gly	Gly	Gly
		20						25					30		
Val	Gly	Leu	Trp	Ile	Leu	Asn	Met	Asp	Ser	Leu	Ser	Ala	Arg	Arg	Thr
	35					40					45				
Leu	His	Thr	Phe	Asp	Leu	Leu	Gly	Phe	Gly	Arg	Ser	Ser	Arg	Pro	Ala
	50				55					60					
Phe	Pro	Arg	Asp	Pro	Glu	Gly	Ala	Glu	Asp	Glu	Phe	Val	Thr	Ser	Ile
65				70				75						80	
Glu	Thr	Trp	Arg	Glu	Thr	Met	Gly	Ile	Pro	Ser	Met	Ile	Leu	Leu	Gly
			85					90					95		
His	Ser	Leu	Gly	Gly	Phe	Leu	Ala	Thr	Ser	Tyr	Ser	Ile	Lys	Tyr	Pro
		100						105					110		
Asp	Arg	Val	Lys	His	Leu	Ile	Leu	Val	Asp	Pro	Trp	Gly	Phe	Pro	Leu
		115				120						125			
Arg	Pro	Thr	Asn	Pro	Ser	Glu	Ile	Arg	Ala	Pro	Pro	Ala	Trp	Val	Lys
	130					135						140			
Ala	Val	Ala	Ser	Val	Leu	Gly	Arg	Ser	Asn	Pro	Leu	Ala	Val	Leu	Arg
145					150					155				160	
Val	Ala	Gly	Pro	Trp	Gly	Pro	Gly	Leu	Val	Gln	Arg	Phe	Arg	Pro	Asp

```

      165              170              175
Phe Lys Arg Lys Phe Ala Asp Phe Phe Glu Asp Asp Thr Ile Ser Glu
      180              185              190
Tyr Ile Tyr His Cys Asn Ala Gln Asn Pro Ser Gly Glu Thr Ala Phe
      195              200              205
Lys Ala Met Met Glu Ser Phe Gly Trp Ala Arg Arg Pro Met Leu Glu
      210              215              220
Arg Ile His Leu Ile Arg Lys Asp Val Pro Ile Thr Met Ile Tyr Gly
      225              230              235              240
Ser Asp Thr Trp Ile Asp Thr Ser Thr Gly Lys Lys Val Lys Met Gln
      245              250              255
Arg Pro Asp Ser Tyr Val Arg Asp Met Glu Ile Lys Gly Ala Ser His
      260              265              270
His Val Tyr Ala Asp Gln Pro His Ile Phe Asn Ala Val Val Glu Glu
      275              280              285
Ile Cys Asp Ser Val Asp
      290

```

<210> 3815

<211> 3669

<212> DNA

<213> Homo sapiens

<400> 3815

```

ngggagcagc tgcagccccc cccgcgcctc ccgggtccct tacgtctggc agctgcccag
60
ctcgggccgg tctgaccggg ttggggccgc acgcctggcg ctgtgctggg aggagccgcc
120
gccagtccgc cggtcagtgc ctccctccag actcgggagg gtcgaggggg cgcgggagag
180
agcgcggggc gccgccgggg ctgggtcgct gcagggatgg gggacgagcg gcccactac
240
tacgggaaac acggaacgcc acagaagtat gatcccaact tcaaaggacc catttacaat
300
aggggctgca cggatatcat atgctgtgtg ttctgtctcc tggccattgt gggctacgtg
360
gctgtaggca tcatagcctg gactcatgga gaccctcgaa aggtgatcta cccactgat
420
agccggggcg agttctgcgg gcagaagggc acaaaaaacg agaacaaacc ctatctgttt
480
tatttcaaca ttgtgaaatg tgccagcccc ctggttctgc tggaattcca atgtcccact
540
ccccagatct gcgtggaaaa atgccccgac cgctacctca cgtacctgaa tgctcgcagc
600
tcccgggact ttgagtacta taagcagttc tgtgttcctg gcttcaagaa caataaagga
660
gtggctgagg tgcttcgaga tgggtgactgc cctgctgtcc tcatccccag caaaccttg
720
gcccgagat gcttccccgc tatccacgcc tacaagggtg tcctgatggt gggcaatgag
780
acgacctatg aggatgggca tggctcccg aaaaacatca cagacctggt ggagggcgcc
840
aagaaagcca atggagtcct agaggcgcg caactcgcca tgcgcatatt tgaagattac
900

```

accgtctctt ggtactggat tatcataggc ctgggtcattg ccatggcgat gagcctcctg
960
ttcatcatcc tgcttcgctt cctggctggt attatggtct gggatgatgat catcatgggtg
1020
attctgggtgc tgggctacgg aatatttcac tgctacatgg agtactcccg actgcgtgggt
1080
gaggccggct ctgatgtctc tttgggtggac ctcggtcttc agacggattt ccgggtgtac
1140
ctgcacttac ggcagacctg gttggccttt atgatcatte tgagtatcct tgaagtcatt
1200
atcatcttgc tgctcatctt tctccggaag agaattctca tcgcgattgc actcatcaaa
1260
gaagccagca gggctgtggg atacgtcatg tgctccttgc tctaccact ggtcaccttc
1320
ttcttgctgt gcctctgcat cgcctactgg gccagcactg ctgtcttcct gtccacttcc
1380
aacgaagcgg tctataagat ctttgatgac agccctgcc cantttactg cgaaaacctg
1440
nncaaccagc agacctccc ctccccaat gaggccgcc aatgccccaa tgcccggtgc
1500
cagttcgctt tctacggtgg tgagtcgggc taccaccggg ccctgctggg cctgcagatc
1560
ttcaatgcct tcatgttctt ctgggtggcc aacttcgtgc tggcgctggg ccaggtcacg
1620
ctggccgggg cctttgcctc ctactactgg gccctgcgca agccggacga cctgccggcc
1680
ttccgctct tctctgcctt tggccgggcg ctccaggtacc acacaggctc cctggccttt
1740
ggcgcgctca tcctggccat tgtgcagatc atccgtgtga tactcgagta cctggatcag
1800
cggctgaaag ctgcagagaa caagtttgcc aagtgcctca tgacctgtct caaatgctgc
1860
ttctggtgcc tggagaagtt catcaaattc cttaatagga atgcctacat catgattgcc
1920
atctacggca ccaatttctg cacctcggcc aggaatgcct tcttcctgct catgagaaac
1980
atcatcagag tggctgtcct ggataaagtt actgacttcc tcttcctgct gggaactt
2040
ctgatcgttg gtagtggtgg gatcctggct ttcttcttct tcaccaccg tatcaggatc
2100
gtgcaggata cagcaccacc cctcaattat tactgggttc ctatactgac ggtgatcgtt
2160
ggctcctact tgattgcaca cggtttcttc agcgtctatg gcatgtgtgt ggacacgctg
2220
ttcctctgct tcttgaggga cctggagagg aatgacggct cggccgagag gccttacttc
2280
atgtcttcca ccctcaagaa actcttgaac aagaccaaca agaaggcagc ggagtctga
2340
aggccccgtg ctccccacct ctcaaggagt ctcatgccgc aggggtgctca gtagctgggt
2400
ctgttcccc agcccttgg gctcacctga agtcctatca ctgccgtct gcccctcccc
2460
atgagccaga tcccaccagt ttctggacgt ggagagtctg gggcatctcc ttcttatgcc
2520

aaggggcgct tggagttttc atggctgccc ctccagactg cgagaaacaa gtaaaaaccc
2580
attggggcct cttgatgtct gggatggcac gtggcccgac ctccacaagc tccctcatgc
2640
ttcctgtccc ccgcttacac gacaacgggc cagaccacgg gaaggacggt gtttgtgtct
2700
gagggagctg ctggccacag tgaacaccca cgttttattcc tgccctgctcc ggccaggact
2760
gaaccccttc tccacacctg aacagttggc tcaagggcca ccagaagcat ttctttatta
2820
ttattatttt ttaacctgga catgcattaa agggctctatt agctttcttt ccgtctgtct
2880
caacagctga gatggggccg ccaaggagtg ccttcccttt gctccctcct agctgggagt
2940
gacgggtggg agtgtgtgtg cccaggtggg ggtgtctcct ggctgggaag gagggaaagg
3000
gagggagagt tttgcggggg ttggcagtg agagcaggct ggagaggaga tggctaatag
3060
ctgtttaatg gaaacctgct gggctggagg gagttaggct gaatttcccg acttccctctg
3120
ccagttattg acacagctct ctttgtaaga gaggaagaa actaaacca cccaagggat
3180
gatttcaggg ggagagggtg agggcagatg tcctgggcaa accgggcccc tctgccaca
3240
cacctcactt gatccttttg ccaaacttgt caaactcagg ggaactggct tcccagttgc
3300
ccctttgcca tattccaagt cccctcaga ctcatgtct ctgctcatca gcaactgtccc
3360
aggatcctgg agaggagaa cccctggccc caggggaaag aggggggggt ctcccgtttc
3420
ctgtgcctgc accagccctg ccccatctgc gtctgcacac ccctgcgtgt aactgcattc
3480
caaccactaa taaagtgcct attgtacagg tccaggcctg gtgtgtttgt tgggggcagt
3540
gagccagtgg cggctggtag ggggaacccc agcttccaag gccctaggag tctctgaact
3600
agggcgattc tctcaaaggg aacgaggagg gggcaggaaa cccactggct gctggctctg
3660
cctgaattc
3669

<210> 3816

<211> 707

<212> PRT

<213> Homo sapiens

<400> 3816

Met	Gly	Asp	Glu	Arg	Pro	His	Tyr	Tyr	Gly	Lys	His	Gly	Thr	Pro	Gln
1				5					10					15	
Lys	Tyr	Asp	Pro	Thr	Phe	Lys	Gly	Pro	Ile	Tyr	Asn	Arg	Gly	Cys	Thr
			20					25					30		
Asp	Ile	Ile	Cys	Cys	Val	Phe	Leu	Leu	Ala	Ile	Val	Gly	Tyr	Val	
		35					40				45				
Ala	Val	Gly	Ile	Ile	Ala	Trp	Thr	His	Gly	Asp	Pro	Arg	Lys	Val	Ile

50					55					60					
Tyr 65	Pro	Thr	Asp	Ser	Arg 70	Gly	Glu	Phe	Cys	Gly 75	Gln	Lys	Gly	Thr	Lys 80
Asn	Glu	Asn	Lys	Pro 85	Tyr	Leu	Phe	Tyr	Phe 90	Asn	Ile	Val	Lys	Cys 95	Ala
Ser	Pro	Leu	Val 100	Leu	Leu	Glu	Phe	Gln 105	Cys	Pro	Thr	Pro	Gln 110	Ile	Cys
Val	Glu	Lys 115	Cys	Pro	Asp	Arg	Tyr 120	Leu	Thr	Tyr	Leu	Asn 125	Ala	Arg	Ser
Ser	Arg 130	Asp	Phe	Glu	Tyr 135	Tyr	Lys	Gln	Phe	Cys	Val 140	Pro	Gly	Phe	Lys
Asn 145	Asn	Lys	Gly	Val 150	Ala	Glu	Val	Leu	Arg	Asp 155	Gly	Asp	Cys	Pro	Ala 160
Val	Leu	Ile	Pro 165	Ser	Lys	Pro	Leu	Ala	Arg	Arg 170	Cys	Phe	Pro	Ala 175	Ile
His	Ala	Tyr 180	Lys	Gly	Val	Leu	Met	Val 185	Gly	Asn	Glu	Thr	Thr 190	Tyr	Glu
Asp	Gly 195	His	Gly	Ser	Arg	Lys	Asn 200	Ile	Thr	Asp	Leu	Val 205	Glu	Gly	Ala
Lys	Lys 210	Ala	Asn	Gly	Val	Leu	Glu 215	Ala	Arg	Gln	Leu	Ala 220	Met	Arg	Ile
Phe 225	Glu	Asp	Tyr	Thr 230	Val	Ser	Trp	Tyr	Trp	Ile 235	Ile	Ile	Gly	Leu	Val 240
Ile	Ala	Met 245	Ala	Met	Ser	Leu	Leu	Phe	Ile 250	Ile	Leu	Leu	Arg	Phe 255	Leu
Ala	Gly 260	Ile	Met	Val	Trp	Val	Met	Ile 265	Ile	Met	Val	Ile	Leu	Val 270	Leu
Gly	Tyr 275	Gly	Ile	Phe	His	Cys	Tyr 280	Met	Glu	Tyr	Ser	Arg 285	Leu	Arg	Gly
Glu	Ala 290	Gly	Ser	Asp	Val	Ser	Leu 295	Val	Asp	Leu	Gly	Phe 300	Gln	Thr	Asp
Phe 305	Arg	Val	Tyr	Leu 310	His	Leu	Arg	Gln	Thr	Trp	Leu	Ala 315	Phe	Met	Ile 320
Ile	Leu	Ser 325	Ile	Leu	Glu	Val	Ile	Ile	Ile	Leu	Leu	Leu	Ile	Phe 335	Leu
Arg	Lys 340	Arg	Ile	Leu	Ile	Ala	Ile	Ala 345	Leu	Ile	Lys	Glu	Ala 350	Ser	Arg
Ala	Val 355	Gly	Tyr	Val	Met	Cys	Ser	Leu 360	Leu	Tyr	Pro	Leu	Val 365	Thr	Phe
Phe	Leu 370	Leu	Cys	Leu	Cys	Ile	Ala 375	Tyr	Trp	Ala	Ser	Thr 380	Ala	Val	Phe
Leu 385	Ser	Thr	Ser	Asn 390	Glu	Ala	Val	Tyr	Lys	Ile	Phe	Asp	Asp	Ser	Pro 400
Cys	Pro	Xaa 405	Tyr	Cys	Glu	Asn	Leu	Xaa	Asn 410	Pro	Glu	Thr	Phe	Pro	Ser 415
Ser	Asn 420	Glu	Ser	Arg	Gln	Cys	Pro	Asn 425	Ala	Arg	Cys	Gln	Phe	Ala	Phe 430
Tyr	Gly 435	Gly	Glu	Ser	Gly	Tyr	His	Arg	Ala	Leu	Leu	Gly	Leu	Gln	Ile 445
Phe	Asn 450	Ala	Phe	Met	Phe	Phe	Trp	Leu	Ala	Asn	Phe	Val	Leu	Ala	Leu 460
Gly 465	Gln	Val	Thr	Leu	Ala	Gly	Ala	Phe	Ala	Ser	Tyr	Tyr	Trp	Ala	Leu 480
Arg	Lys	Pro	Asp	Asp 470	Leu	Pro	Ala	Phe	Pro	Leu	Phe	Ser	Ala	Phe	Gly 480

```

      485              490              495
Arg Ala Leu Arg Tyr His Thr Gly Ser Leu Ala Phe Gly Ala Leu Ile
      500              505              510
Leu Ala Ile Val Gln Ile Ile Arg Val Ile Leu Glu Tyr Leu Asp Gln
      515              520              525
Arg Leu Lys Ala Ala Glu Asn Lys Phe Ala Lys Cys Leu Met Thr Cys
      530              535              540
Leu Lys Cys Cys Phe Trp Cys Leu Glu Lys Phe Ile Lys Phe Leu Asn
      545              550              555              560
Arg Asn Ala Tyr Ile Met Ile Ala Ile Tyr Gly Thr Asn Phe Cys Thr
      565              570              575
Ser Ala Arg Asn Ala Phe Phe Leu Leu Met Arg Asn Ile Ile Arg Val
      580              585              590
Ala Val Leu Asp Lys Val Thr Asp Phe Leu Phe Leu Leu Gly Lys Leu
      595              600              605
Leu Ile Val Gly Ser Val Gly Ile Leu Ala Phe Phe Phe Phe Thr His
      610              615              620
Arg Ile Arg Ile Val Gln Asp Thr Ala Pro Pro Leu Asn Tyr Tyr Trp
      625              630              635              640
Val Pro Ile Leu Thr Val Ile Val Gly Ser Tyr Leu Ile Ala His Gly
      645              650              655
Phe Phe Ser Val Tyr Gly Met Cys Val Asp Thr Leu Phe Leu Cys Phe
      660              665              670
Leu Glu Asp Leu Glu Arg Asn Asp Gly Ser Ala Glu Arg Pro Tyr Phe
      675              680              685
Met Ser Ser Thr Leu Lys Lys Leu Leu Asn Lys Thr Asn Lys Lys Ala
      690              695              700
Ala Glu Ser
705

```

<210> 3817

<211> 419

<212> DNA

<213> Homo sapiens

<400> 3817

```

cgcggtgtgtac acaactggga ctttgagcct cgaaagggtt ctcgctgcag catgcgctac
60
ctggcgctga tgggtgtctcg gcccgctactc aggctccggg agatcaaccc totgctgttc
120
agctacgtgg aggagctggt ggagattcgc aagctgcgcc aggacatcct gtcctgaag
180
ccgtacttca tcacctgcag ggaggccatg gaggtcgtc tgctgctgca ggacctcctg
240
gacgtgcatg ccggccgcct gggctgctcg ctcaccgaga tccacacgct cttcgccaag
300
cacatcaagc tggactgcga gcggtgccag gccaaaggct tcgtgtgtga gctctgcaga
360
gagggcgacg tgctgttccc gttcgacagc cacacgtctg tgtgcgccga ctgcttcgc
419

```

<210> 3818

<211> 139

<212> PRT

<213> Homo sapiens

<400> 3818

```

Arg Val Val His Asn Trp Asp Phe Glu Pro Arg Lys Val Ser Arg Cys
 1           5           10           15
Ser Met Arg Tyr Leu Ala Leu Met Val Ser Arg Pro Val Leu Arg Leu
      20           25           30
Arg Glu Ile Asn Pro Leu Leu Phe Ser Tyr Val Glu Glu Leu Val Glu
      35           40           45
Ile Arg Lys Leu Arg Gln Asp Ile Leu Leu Met Lys Pro Tyr Phe Ile
      50           55           60
Thr Cys Arg Glu Ala Met Glu Ala Arg Leu Leu Leu Gln Asp Leu Leu
      65           70           75           80
Asp Val His Ala Gly Arg Leu Gly Cys Ser Leu Thr Glu Ile His Thr
      85           90           95
Leu Phe Ala Lys His Ile Lys Leu Asp Cys Glu Arg Cys Gln Ala Lys
      100          105          110
Gly Phe Val Cys Glu Leu Cys Arg Glu Gly Asp Val Leu Phe Pro Phe
      115          120          125
Asp Ser His Thr Ser Val Cys Ala Asp Cys Phe
      130          135

```

<210> 3819

<211> 1731

<212> DNA

<213> Homo sapiens

<400> 3819

```

actcctcccc ctccaggaat gttcatttgt ttggagcctt gggcatccat ctcacagggg
60
agtttgacat ctctactcc cagagcttcg ctcttatatt tcttcacaaa ctgctccatc
120
tccttcacct ctctgggaga caactcatgg cactttgaag ggtcctgggc atgtgcaggg
180
agctgctttg ccagctgctt cttccggtac tgtgccccct ctgagcctgc tactgggcgg
240
cggaagtctg acggcgccgg gcgagtggct gttgagcggc gccgcgggag ttccgcaggt
300
ttcccggtgt cgcagcggag ccggaggcca gctgaaccgc gccgtgggat cacggatagg
360
aggaggaggg gacccatagg acgcgttaac atggacctgg aaaacaaagt gaagaagatg
420
ggcttaggtc acgagcaagg atttggagcc ccttgtttaa aatgcaaaga aaaatgtgaa
480
ggattcgaac tgcacttctg gagaaaaata tgtcgtaact gcaagtgtgg ccaagaagag
540
catgatgtcc tcttgagcaa tgaagaggat cgaaaagtgg gaaaactttt tgaagacacc
600
aagataacca ctctgattgc aaaactaaag tcagatggaa ttcccatgta taaacgcaat
660
gttatgatat tgacgaatcc agttgctgcc aagaagaatg tctccatcaa tacagttacc
720
tatgagtggg ctctcctgt ccagaatcaa gcattggcca ggcagtacat gcagatgcta
780

```

cccaaggaaa agcagccagt agcaggctca gagggggcac agtaccggaa gaagcagctg
 840
 gcaaagcagc tccctgcaca tgaccaggac ccttcaaagt gccatgagtt gtctcccaga
 900
 gaggtgaagg agatggagca gtttgtgaag aaatataaga gcgaagctct gggagtagga
 960
 gatgtcaaac ttccctgtga gatggatgcc caaggcccca aacaaatgaa cattcctgga
 1020
 ggggatagaa gcacccagc agcagtgggg gccatggagg acaaactctgc tgagcacaaa
 1080
 agaactcaat attcctgcta ttgctgcaaa ctgagtatga aagaaggtga cccagccatc
 1140
 tatgccgaaa gggctggcta tgataaactg tggcacccag cttgttttgt ctgcagcacc
 1200
 tgccatgaac tcctgggtga catgatttat ttttggaaga atgagaagct atactgtggc
 1260
 agacattact gtgacagcga gaaacccga tgtgctggct gtgacgagct gatattcagc
 1320
 aatgagtata cccaggcaga aaaccagaat tggcacctga aacacttctg ctgctttgac
 1380
 tgtgatagca ttctagctgg ggagatatac gtgatgggtca atgacaagcc cgtgtgcaag
 1440
 ccctgctatg tgaagaatca cgctgtggtg agaagtgttc taaggatatg gttgcctcag
 1500
 cctgctttag gacttgagtt tatgcttttc ttaaagcctc ttacaaatgg gaaacagaaa
 1560
 gcagtcctcc taagtagaaa gcaaattatt cctaccacag ggtgttaaaa tcaaggcaat
 1620
 tcaaaaacaa tacatgcatt gactatgagc cacctcaaga tttctacttg tgaaatttac
 1680
 aatatcaatt ataggtactg cttaataata aaatcctcac ttaaaaaaaaa a
 1731

<210> 3820

<211> 535

<212> PRT

<213> Homo sapiens

<400> 3820

Thr	Pro	Pro	Pro	Pro	Gly	Met	Phe	Ile	Cys	Leu	Glu	Pro	Trp	Ala	Ser
1				5					10					15	
Ile	Ser	Gln	Gly	Ser	Leu	Thr	Ser	Pro	Thr	Pro	Arg	Ala	Ser	Leu	Leu
			20					25					30		
Tyr	Phe	Phe	Thr	Asn	Cys	Ser	Ile	Ser	Phe	Thr	Ser	Leu	Gly	Asp	Asn
		35					40					45			
Ser	Trp	His	Phe	Glu	Gly	Ser	Trp	Ser	Cys	Ala	Gly	Ser	Cys	Phe	Ala
	50					55					60				
Ser	Cys	Phe	Phe	Arg	Tyr	Cys	Ala	Pro	Ser	Glu	Pro	Ala	Thr	Gly	Arg
65					70					75				80	
Arg	Lys	Phe	Asp	Gly	Ala	Gly	Arg	Val	Ala	Val	Glu	Arg	Arg	Arg	Gly
			85					90						95	
Ser	Ser	Ala	Gly	Phe	Pro	Cys	Ser	Gln	Arg	Ser	Arg	Arg	Pro	Ala	Glu
			100					105					110		
Pro	Gly	Arg	Gly	Ile	Thr	Asp	Arg	Arg	Arg	Gly	Pro	Ile	Gly	Arg	

115	120	125
Val Asn Met Asp Leu Glu	Asn Lys Val Lys Lys Met	Gly Leu Gly His
130	135	140
Glu Gln Gly Phe Gly Ala	Pro Cys Leu Lys Cys Lys	Glu Lys Cys Glu
145	150	155
Gly Phe Glu Leu His Phe	Trp Arg Lys Ile Cys Arg	Asn Cys Lys Cys
165	170	175
Gly Gln Glu Glu His Asp	Val Leu Leu Ser Asn Glu	Glu Asp Arg Lys
180	185	190
Val Gly Lys Leu Phe Glu	Asp Thr Lys Tyr Thr Thr	Leu Ile Ala Lys
195	200	205
Leu Lys Ser Asp Gly Ile	Pro Met Tyr Lys Arg	Asn Val Met Ile Leu
210	215	220
Thr Asn Pro Val Ala Ala	Lys Lys Asn Val Ser Ile	Asn Thr Val Thr
225	230	235
Tyr Glu Trp Ala Pro Pro	Val Gln Asn Gln Ala Leu	Ala Arg Gln Tyr
245	250	255
Met Gln Met Leu Pro Lys	Glu Lys Gln Pro Val Ala	Gly Ser Glu Gly
260	265	270
Ala Gln Tyr Arg Lys Lys	Gln Leu Ala Lys Gln Leu	Pro Ala His Asp
275	280	285
Gln Asp Pro Ser Lys Cys	His Glu Leu Ser Pro Arg	Glu Val Lys Glu
290	295	300
Met Glu Gln Phe Val Lys	Lys Tyr Lys Ser Glu Ala	Leu Gly Val Gly
305	310	315
Asp Val Lys Leu Pro Cys	Glu Met Asp Ala Gln Gly	Pro Lys Gln Met
325	330	335
Asn Ile Pro Gly Gly Asp	Arg Ser Thr Pro Ala Ala	Val Gly Ala Met
340	345	350
Glu Asp Lys Ser Ala Glu	His Lys Arg Thr Gln Tyr	Ser Cys Tyr Cys
355	360	365
Cys Lys Leu Ser Met Lys	Glu Gly Asp Pro Ala Ile	Tyr Ala Glu Arg
370	375	380
Ala Gly Tyr Asp Lys Leu	Trp His Pro Ala Cys Phe	Val Cys Ser Thr
385	390	395
Cys His Glu Leu Leu Val	Asp Met Ile Tyr Phe Trp	Lys Asn Glu Lys
405	410	415
Leu Tyr Cys Gly Arg His	Tyr Cys Asp Ser Glu Lys	Pro Arg Cys Ala
420	425	430
Gly Cys Asp Glu Leu Ile	Phe Ser Asn Glu Tyr Thr	Gln Ala Glu Asn
435	440	445
Gln Asn Trp His Leu Lys	His Phe Cys Cys Phe Asp	Cys Asp Ser Ile
450	455	460
Leu Ala Gly Glu Ile Tyr	Val Met Val Asn Asp Lys	Pro Val Cys Lys
465	470	475
Pro Cys Tyr Val Lys Asn	His Ala Val Val Arg Ser	Val Leu Arg Ile
485	490	495
Trp Leu Pro Gln Pro Ala	Leu Gly Leu Glu Phe Met	Leu Phe Leu Lys
500	505	510
Pro Leu Thr Asn Gly Lys	Gln Lys Ala Val Leu Leu	Ser Arg Lys Gln
515	520	525
Ile Ile Pro Thr Thr Gly	Cys	
530	535	

<210> 3821

<211> 5212

<212> DNA

<213> Homo sapiens

<400> 3821

nggtataact ttgttttgct ttgtttcaca atttggttta ataagagtga tttcatttac
60
ctcaagtgct atttcttcat aatgctgtgt aatgctaaag ctttgattat gtgcgtgtgt
120
ggtttttttc tccaataggc aattatttcc agtcagagaa ggaaaccagt gcctggcatt
180
ctcaccatct ttctacctac catgatcaag tgcttgtagc ttgaagtaca agccaaattg
240
cgttctggtt tggccataag ctcttgggc caatgtgttg aggaacttgc cctcaacagt
300
attgatgctg aagcaaaatg tgtggctgtc aggggtgaata tggaaacctt ccaagttcaa
360
gtgatagaca atggatttgg gatggggagt gatgatgtag agaaagtggg aaatcggtat
420
ttcaccagta aatgccactc ggtacaggac ttggagaatc caaggtttta tggtttccga
480
ggagaggcct tggcaaatat tgctgacatg gccagtgtgt tggaaatttc gtccaagaaa
540
aacaggacaa tgaaaacttt tgtgaaactg ttccagagtg gaaaagccct gaaagcttgt
600
gaagctgatg tgactagagc aagcgtgtgg actactgtaa cagtgtataa cctattttac
660
cagcttctct taaggaggaa atgcatggac cctagactgg agtttgagaa ggtaggcag
720
agaatagaag ctctctcact catgcacctc tccatttctt tctctttgag aaatgatgtt
780
tctggttcca tggttcttca gtcctctaaa accaaagacg tatgttcccg attttgtcaa
840
atttatggat tgggaaagtc ccaaaagcta agagaaataa gttttaaata taaagagttt
900
gagcttagtg gctatatcag ctctgaagca cattacaaca agaatatgca gttttgtttt
960
gtgaacaaaa gactagtttt aaggacaaag ctacataaac tcattgactt tttattaagg
1020
aaagaaagta ttatatgcaa gccaaagaat ggtccacca gtaggcaat gaattcaagt
1080
cttcggcacc ggtctacccc agaactctat ggcatatatg taattaatgt gcagtgccaa
1140
ttctgtgagt atgatgtgtg catggagcca gccaaaactc tgattgaatt tcagaactgg
1200
gacactctct tgttttgcac tcaggaagga gtgaaaatgt ttttaaagca agaaaaatta
1260
tttgtggaat tatcaggtga ggatattaag gaatttagtg aagataatgg ttttagttta
1320
tttgatgcta ctcttcagaa gcgtgtgact tccgatgaga ggagcaattt ccaggaagca
1380
tgtaataata ttttagattc ctatgagatg ttttaattgc agtcaaaagc tgtgaaaaga
1440

aaaactactg cagaaaaacgt aaacacacag agttctaggg attcagaagc taccagaaaa
1500
aatacaaatg atgcattttt gtacatttat gaatcaggtg gtccaggcca tagcaaaatg
1560
acagagccat ctttacaaaa caaagacagc tcttgctcag aatcaaagat gttagaacaa
1620
gagacaattg tagcatcaga agctggagaa aatgagaaac ataaaaaatc tttcctggaa
1680
catagctctt tagaaaatcc gtgtggaacc agtttagaaa tgtttttaag cccttttcag
1740
acaccatgtc actttgagga gagtgggcag gatctagaaa tatggaaaga aagtactact
1800
gttaatggca tggctgccaa catcttgaaa aataatagaa ttcagaatca accaaagaga
1860
tttaaagatg ctactgaagt gggatgccag cctctgcctt tgcaacaac attatgggga
1920
gtacatagtg ctacagacaga gaaagagaaa aaaaaagaat ctagcaattg tggaagaaga
1980
aatgttttta gttatgggcg agttaaatga tggtccactg gctttataac tcatgtagta
2040
caaatgaaa aaactaaatc aactgaaaca gaacattcat ttaaaaatta tgtagacct
2100
gggccacac gtgccaaga aacatttgga aatagaacac gtcattcagt tgaaactcca
2160
gacatcaaag atttagccag cactttaagt aaagaatctg gtcaattgcc caacaaaaaa
2220
aattgcagaa cgaatataag ttatgggcta gagaatgaac ctacagcaac ttatacaatg
2280
ttttctgctt ttcaggaagg tagcaaaaaa tcacaaacag attgcatatt atctgatata
2340
tccccctctt tccccctgta tagacacgtt tccaatgata gtaggaaaac agataaatta
2400
attgggttct ccaaaccaat cgtccgtaag aagctaagct tgagttcaca gctaggatct
2460
ttagagaagt ttaagaggca atatgggaag gttgaaaatc ctctggatac agaagtagag
2520
gaaagtaatg gagtcactac caatctcagt cttcaagttg aacctgacat tctgctgaag
2580
gacaagaacc gcttagagaa ctctgatgtt tgtaaaatca ctactatgga gcatagtgat
2640
tcagatagta gttgtcaacc agcaagccac atccttgact cagagaagtt tccattctcc
2700
aaggatgaag attgtttaga acaacagatg cctagtttga gagaaagtcc tatgacctg
2760
aaggagttat ctctctttaa tagaaaacct ttggaccttg agaagtcac tgaatcacta
2820
gcctctaaat tatccagact gaagggttcc gaaagagaaa ctcaacaat ggggatgatg
2880
agtcgtttta atgaacttcc aaattcagat tccagtagga aagacagcaa gttgtgcagt
2940
gtgttaacac aagatttttg tatgttatth aacaacaagc atgaaaaaac agagaatggt
3000
gtcatcccaa catcagattc tgccacacag gataattcct ttaataaaaa tagtaaaaca
3060

cattctaaca gcaatacaac agagaactgt gtgatatcag aaactccttt ggtattgccc
3120
tataataatt ctaaagttac cggtaaagat tcagatgttc ttatcagagc ctcagaacaa
3180
cagataggaa gtcttgactc tcccagtgga atgttaatga atccggtaga agatgccaca
3240
ggtgaccaa atggaatttg ttttcagagt gaggaatcta aagcaagagc ttgttctgaa
3300
actgaagagt caaacacgtg ttgttcagat tggcagcggc atttcgatgt agccctggga
3360
agaatgggtt atgtcaacaa aatgactgga ctcagcacat tcattgcccc aactgaggac
3420
attcaggctg cttgtactaa agacctgaca actgtggctg tggatgttgt acttgagaat
3480
gggtctcagt acagggtgtc accttttaga agcgaccttg ttcttccttt ccttccgaga
3540
gctcgagcag agaggactgt gatgagacag gataacagag atactgtgga tgatactgtt
3600
agtagcgaat cgcttcagtc tttgttctca gaatgggaca atccagtatt tgcccgttat
3660
ccagagggtg ctgttgatgt aagcagtggc caggctgaga gcttagcagt taaaattcac
3720
aacatcttgt atccctatcg tttcaccaaa ggaatgattc attcaatgca ggttctccag
3780
caagtagata acaagtttat tgctgtttg atgagcacta agactgaaga gaatggcgag
3840
gcagattcct acgagaagca acaggcacia ggctctggtc ggaaaaaatt actgtcttct
3900
actctaattc ctccgctaga gataacagtg acagaggaac aaaggagact cttatggtgt
3960
taccacaaaa atctggaaga tctgggcctt gaatttgat ttccagacac tagtgattct
4020
ctggtccttg tgggaaaagt accactatgt tttgtggaaa gagaagccaa tgaacttcgg
4080
agaggaagat ctactgtgac caagagtatt gtggaggaat ttatccgaga acaactggag
4140
ctactccaga ccaccggagg catccaagg acattgccac tgactgtcca gaagggtgtg
4200
gcatcccaag cctgccatgg ggccattaag tttaatgatg gcctgagctt acaggaaagt
4260
tgccgcctta ttgaagctct gtctcatgc cagctgccat tccagtgtgc tcacgggaga
4320
ccttctatgc tgccgttagc tgacatagac cacttggaa aggaaaaaca gattaaaccc
4380
aacctcacta aacttcgaa aatggcccag gcctggcgtc tctttggaaa agcagagtgt
4440
gatacaaggc agagcctgca gcagtccatg cctccctgtg agccaccatg agaacagaat
4500
cactggtcta aaaggaacaa agggatgttc actgtatgcc tctgagcaga gagcagcagc
4560
agcaggtagc agcagggccc tgactgaatc agcccagtgt ccctgagcag cttagacagc
4620
agggctctct gtatcagctt ttcttgagca gatgattccc ctagttagt agccagatga
4680

aattcaagcc taaagacaat tcattcattt gcatccatgg gcacagaagg ttgctatata
4740
gtatctacct ttgctactt atttaatgat aaaatttaat gacagtttga aaaaaaaaaa
4800
aaaaaaaaatt atttgaaggg gtgggtgatt ttgtttttg tacagttttt tttcaagctt
4860
cacattttgcg tgtatctaatt tcagctgatg ctcaagtcca aggggtagtc tgccttccca
4920
ggctgcccc agggtttctg cactgggtccc ctcttttccc ttcagtcttc ttcacttccc
4980
tatgctgctg cttcatgtgc tacatctcag acttaaagag tttctctact acagtgaaaa
5040
cattctctag ggtctttcat caggccttta gttatttttag ggataaaaaac tattgataaa
5100
aaggacaagg atagaacaga gaaaatttaa agtcctgttc cgggtttttt gttatgtttt
5160
ctttaaaaac tcagagactg atgttcaata tcccaaacca gtaaaatggg ga
5212

<210> 3822

<211> 375

<212> PRT

<213> Homo sapiens

<400> 3822

Met	Val	Tyr	Val	Asn	Lys	Met	Thr	Gly	Leu	Ser	Thr	Phe	Ile	Ala	Pro
1				5					10					15	
Thr	Glu	Asp	Ile	Gln	Ala	Ala	Cys	Thr	Lys	Asp	Leu	Thr	Thr	Val	Ala
			20					25					30		
Val	Asp	Val	Val	Leu	Glu	Asn	Gly	Ser	Gln	Tyr	Arg	Cys	Gln	Pro	Phe
			35				40					45			
Arg	Ser	Asp	Leu	Val	Leu	Pro	Phe	Leu	Pro	Arg	Ala	Arg	Ala	Glu	Arg
			50			55				60					
Thr	Val	Met	Arg	Gln	Asp	Asn	Arg	Asp	Thr	Val	Asp	Asp	Thr	Val	Ser
65				70						75				80	
Ser	Glu	Ser	Leu	Gln	Ser	Leu	Phe	Ser	Glu	Trp	Asp	Asn	Pro	Val	Phe
				85					90					95	
Ala	Arg	Tyr	Pro	Glu	Val	Ala	Val	Asp	Val	Ser	Ser	Gly	Gln	Ala	Glu
			100					105					110		
Ser	Leu	Ala	Val	Lys	Ile	His	Asn	Ile	Leu	Tyr	Pro	Tyr	Arg	Phe	Thr
			115				120					125			
Lys	Gly	Met	Ile	His	Ser	Met	Gln	Val	Leu	Gln	Gln	Val	Asp	Asn	Lys
			130			135						140			
Phe	Ile	Ala	Cys	Leu	Met	Ser	Thr	Lys	Thr	Glu	Glu	Asn	Gly	Glu	Ala
145				150						155				160	
Asp	Ser	Tyr	Glu	Lys	Gln	Gln	Ala	Gln	Gly	Ser	Gly	Arg	Lys	Lys	Leu
				165					170					175	
Leu	Ser	Ser	Thr	Leu	Ile	Pro	Pro	Leu	Glu	Ile	Thr	Val	Thr	Glu	Glu
			180					185					190		
Gln	Arg	Arg	Leu	Leu	Trp	Cys	Tyr	His	Lys	Asn	Leu	Glu	Asp	Leu	Gly
			195				200					205			
Leu	Glu	Phe	Val	Phe	Pro	Asp	Thr	Ser	Asp	Ser	Leu	Val	Leu	Val	Gly
			210			215					220				
Lys	Val	Pro	Leu	Cys	Phe	Val	Glu	Arg	Glu	Ala	Asn	Glu	Leu	Arg	Arg

225					230					235				240	
Gly	Arg	Ser	Thr	Val	Thr	Lys	Ser	Ile	Val	Glu	Glu	Phe	Ile	Arg	Glu
				245					250					255	
Gln	Leu	Glu	Leu	Leu	Gln	Thr	Thr	Gly	Gly	Ile	Gln	Gly	Thr	Leu	Pro
			260					265					270		
Leu	Thr	Val	Gln	Lys	Val	Leu	Ala	Ser	Gln	Ala	Cys	His	Gly	Ala	Ile
		275					280					285			
Lys	Phe	Asn	Asp	Gly	Leu	Ser	Leu	Gln	Glu	Ser	Cys	Arg	Leu	Ile	Glu
	290					295					300				
Ala	Leu	Ser	Ser	Cys	Gln	Leu	Pro	Phe	Gln	Cys	Ala	His	Gly	Arg	Pro
305					310					315					320
Ser	Met	Leu	Pro	Leu	Ala	Asp	Ile	Asp	His	Leu	Glu	Gln	Glu	Lys	Gln
				325					330					335	
Ile	Lys	Pro	Asn	Leu	Thr	Lys	Leu	Arg	Lys	Met	Ala	Gln	Ala	Trp	Arg
			340					345					350		
Leu	Phe	Gly	Lys	Ala	Glu	Cys	Asp	Thr	Arg	Gln	Ser	Leu	Gln	Gln	Ser
		355					360					365			
Met	Pro	Pro	Cys	Glu	Pro	Pro									
	370					375									

<210> 3823

<211> 6280

<212> DNA

<213> Homo sapiens

<400> 3823

```

nngggtgccc actgcctcct cgccccctc cccccaagca acaacaacaa caacaactcc
60
aagcacaccg gccataagag tgcgtgtgtc cccaacatga ccgaacgaag aagggacgag
120
ctctctgaag agatcaacaa cttaagagag aaggctcatga agcagtcgga ggagaacaac
180
aacctgcaga gccaggtgca gaagctcaca gaggagaaca ccacccttcg agagcaagtg
240
gaaccacccc ctgaggatga ggatgatgac atcgagctcc gcggtgctgc agcagctgct
300
gccccacccc ctccaataga ggaagagtgc ccagaagacc tcccagagaa gttegatggc
360
aaccagaca tgctggctcc tttcatggcc cagtgccaga tttcatgga aaagagcacc
420
agggatttct cagttgatcg tgtccgtgtc tgcttcgtga caagcatgat gaccggccgt
480
gctgcccgtt gggcctcagc aaagctggag cgctcccact acctgatgca caactaccca
540
gctttcatga tggaaatgaa gcatgtcttt gaagaccctc agaggcgaga ggttgccaaa
600
cgcaagatca gacgcctgcg ccaaggcatg gggctctgtca tcgactactc caatgctttc
660
cagatgattg cccaggacct ggattggaac gagcctgcgc tgattgacca gtaccacgag
720
ggcctcagcg accacattca ggaggagctc tcccacctcg aggtcgccaa gtcgctgtct
780
gctctgattg ggcagtgcac tcacattgag agaaggctgg ccagggtgc tgcagctcgc
840

```


aagccacgct cgccaccccg ggcgctggtg ttgcctcaca ttgcaagcca ccaccaggta
900
gatccaaccg agccggtggg aggtgcccgc atgcgcctga cgcaggaaga aaaagaaaga
960
cgcagaaaagc tgaacctgtg cctctactgt ggaacaggag gtcactacgc tgacaattgt
1020
cctgccaagg cctcaaagtc ttcgccggcg ggaaactccc cggccccgct gtagagggac
1080
cttcagcgac cgggccagaa ataataaggt cccacaaga tgatgcctca tctccacact
1140
tgcaagtgat gctccagatt catcttccgg gcagacacac cctgttcgtc cgagccatga
1200
tcgattctgg tgcttctggc aacttcattg atcacgaata tgttgctcaa aatggaattc
1260
ctctaagaat caaggactgg ccaataacttg tggaagcaat tgatgggctc cccatagcat
1320
cgggcccagt tgtccacgaa actcacgacc tgatagttga cctgggagat caccgagagg
1380
tgctgtcatt tgatgtgact cagtctccat tcttccctgt cgctcctaggg gtctgctggc
1440
tgagcacaca tgatcccaat atcacatgga gcactcgatc tatcgtcttt gattctgaat
1500
actgccgcta ccactgccgg atgtattctc caataccacc atcgctccca ccaccagcac
1560
cacaaccgcc actctattat ccagtagatg gatacagagt ttaccaacca gtgagggtatt
1620
actatgtcca gaatgtgtac actccagtag atgagcacgt ctaccagat caccgcctgg
1680
ttgacctca catagaaatg atacctggag cacacagtat tccagtgga catgtgtatt
1740
cactgtccga acctgaaatg gcagctcttc gagattttgt ggcaagaaat gtaaaagatg
1800
ggctaattac tccaacgatt gcacctaatg gagcccaagt tctccagggtg aagaggggggt
1860
ggaaactgca agtttcttat gattgccgag ctccaaacaa ttttactatc cagaatcagt
1920
atcctcgctt atctattcca aatttagaag accaagcaca cctggcaacg tacactgaat
1980
tcgtacctca aatacctgga taccaaacat accccacata tgccgcgtac ccgacctacc
2040
cagtaggatt cgctgggtac ccagtgggac gagacggaca aggaagatca ctatatgtac
2100
ctgtgatgat cacttggaat ccacactggt accgccagcc tccggtacca cagtaccgcg
2160
cgccacagcc gcgcctcca ccaccaccac cgccgccgcc tccatcttac agtaccctgt
2220
aaatacctgt catgtccttc aggatctctg cctcaaaaat ttattcctgt tcagcttctc
2280
aatcagtga cgtgtgctaa attttaggct actgtatctt caggccacct gaggcacatc
2340
ctctctgaaa cggctatgga aggttagggc cactctggac tggcacacat cctaaagcac
2400
caaaagacct tcaacatttt ctgagagcaa cagagtattt gccataaat gatctctcat
2460

ttttccacct tgactgccaa tctaactaaa ataattaata agtttacttt ccagccagtc
2520
ctggaagtct ggggtttacc tgccaaaacc tccatcacca tctaaattat aggctgccaa
2580
atttgcgtgt taacattttac agagaagctg atacaaacgc aggaaatgct gattttcttta
2640
tggaggggga gacgaggagg aggaggacat gacttttctt gcggtttcgg taccctcttt
2700
ttaaatactt ggaggactga ggccttatta aggaatccaa aattatcggt gcagtgtgga
2760
aaggcttccg tgatcctctc gctgcaccct tagaaacttc accgtcttca aactccattt
2820
ccatggttct gttaattctc aaggagcagc aactcgactg gttctcccag gagcaggaaa
2880
aacccttggt acatgaaaca tctcaggcct gaaaagaaag tgctctctca gatggactct
2940
tgcatgttaa gactatgtct tcacatcatg gtgcaaatca catgtaccca atgactccgg
3000
ctttgacaca acaccttacc atcatcatgc catgatggct tccacaaagc attaaacctg
3060
gtaaccagag attactgggt gctccagcgt tgtagatgt tcatgaaatg tgaccacctc
3120
tcaatcacct ttgagggtta aagagtagca catcaaaagg actccaaaat cccataccca
3180
actcttaaga gatttgtcct ggtacttcag aaagaatttt catgagtgtt ctttaattggc
3240
tggaaaagca ccagctgacg ttttgggaaga atctatccat gtgtctgcct ccatatgcat
3300
ctgggcattt catcttcagt cccctcatta gactgtagca ttaggatgtg tggagagagg
3360
agaaatgatt tagcâccccag attcacactc ctatgcctgg aagggggaca tctttgaaga
3420
agaggaatta gggctgtgga cactgtcttg aggatgtgga ctctcttagt gagctccaca
3480
ttacttgatg gtaaccactt caaaaggatc agaatccacg taatgaaaaa ggtccctcta
3540
gaggatggag ctgatgtgaa gctgccaatg gatgaaaagc ctcagaaagc aactcaaagg
3600
actcaaagca acggacaaca caagagttgt cttcagccca gtgacacctc tgatgtcccc
3660
tggaagcttt gtgctaacct gggactgcct gacttccttt agcctgggtcc cttgctacta
3720
ccttgaactg ttttatctaa cctctctttt tctgtttaat tctttgctac tgccattgac
3780
cctgctgcag gatttgtgtc attttctctgc ctggttgctg agactccatt ttgctgccac
3840
acacagagat gtaagaggca ggctttaatt gccaaagcac agtttgagca gtagaaaaca
3900
acatggtgta tatctcaaâ tgcctgacat gaagaggagt ctaacggtga agtttcaactt
3960
ttcatcagca tcatctttca catgttcatt atcatccgct cttattcttg catgtttaaa
4020
cacttaaaat ttttagtata attttttagtg tgttttgaag tggtgactag gctttcaaaa
4080

acttccattg aattacaaag cactatccag ttcttattgt taaactaagt aaaaatgata
4140
agtaacatag tgtaaaatat tcctttactg tgaacttctt acaatgctgt gaatgagagg
4200
ctcctcagaa ctggagcatt tgtataataa ttcacctgt tcatcttcaa ttttaacatc
4260
atatataatt tcaattctat caattgggcc tttaaaaatc atataaaagg atataaaatt
4320
tgaaaagaga aacctaattg gctatttaat ccaaaacaac ttttttttct cttcaatgga
4380
atcggaagc ttgtcaatca ctcatgtgtt ttagagtaat tactttttaa atgggtgcatt
4440
tgtgtctctg aactattttg aagagtcact tctgtttacc tcaagtatca attcatcctc
4500
catcacattg aattcaagtt gtttttttgt caaatttaca gttgtcaatt gatcttcaag
4560
ctgcaggggtg cctagaaatg ggccgttgtc tgtagccctg gcatgtgcac acggacattt
4620
gccaccactg caagcaaaag tctggagaag ttcaccaacg acaagaacga ttagggaaaa
4680
tatgctgctg tgggttaaca actcagaaag tcctgatcc acatttggct gtttactaaa
4740
gcttgtgatt aacttttttg cagtgtgtac tatgctctat tgctatatat gctatctata
4800
aatgtagatg ttaaggataa gtaattctaa atttattatt ctatagtttt gaagtttggt
4860
taagtttctt ttactcaat tgatttattt tgttgtaat caaatttatg ttaattggat
4920
cctttaaatt ttttttgga tttccaaca aaaatggctt tattcataag aaaggaaaaa
4980
aatcaatgga atttgatata taaagaagtt agaaagggag caaaataaaa aacataaagg
5040
agatagatga attagtaagc aaatcagtag tcgagttttt caaactggca aaattaatta
5100
attgactttt agcccaaatt tacattgtta attaaatcaa gaaggaagaa gatctaagag
5160
ctcccattga taggcaagcc tagagagaac tagctaaatt tatcatgcta ggatattgaa
5220
acacagaaag tttacatata tttatgaagg gtcaatttag tttggacagt gaggtatttg
5280
tcttagtgga aaaaaggaga attagtctga tcaaatcgtg aagtaatata gtgaacttgc
5340
aggtgcacaa aataagaggg ccacatctat atgggtgcagt ctggaattct gtttaagttt
5400
gtaggtacct cttggacttc tgaattgatc cagttgtcat ccaccacaga catctcacat
5460
cagatacaga cagttccaag attgacaaca gagaacaacc tgctggaaag acctgggcag
5520
aaatggagag ccctgcggga accatgctac attttcatct aaagagagaa tgcacatctg
5580
atgagactga aagttctttg ttgttttaga ttgtagaatg gtattgaatt ggtctgtgga
5640
aaattgcatt gcttttattt ctttgtgtaa tcaagtttaa gtaatagggg atatataatc
5700

ataagcattt tagggtggga gggactatta agtaatttta agtgggtggg gttatttaga
 5760
 atgttagaat aatattatgt attagatatt gctataagt gacatgcgta cttacttgta
 5820
 accctttacc ctataattgc tacccttaaa gatttcaaata aaactcggag ggaactgcag
 5880
 ggagaccaac ttatttagag cgaattggac atggataaaa accccagtgg gagaaagttc
 5940
 aaaggtgatt agattaataa tttatagag gatgagtac ctctgataaa ttactgctag
 6000
 aatgaacttg tcaatgatgg atggtaaatt ttcattgaag ttataaaagt gataaataaa
 6060
 aacccttgct tttacccctg tcagtagccc tctcctacc actgaacccc attgccccta
 6120
 cccctccttc taactttatt gctgtattct ctctactcta tatttctctc tatttgctaa
 6180
 tattgcattg ctgttacaat aaaaattcaa taaagattta gtgggtaagt gcaaaaaaaaa
 6240
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa
 6280

<210> 3824

<211> 342

<212> PRT

<213> Homo sapiens

<400> 3824

Asn	Asn	Asn	Asn	Ser	Lys	His	Thr	Gly	His	Lys	Ser	Ala	Cys	Val	Pro
1				5				10						15	
Asn	Met	Thr	Glu	Arg	Arg	Arg	Asp	Glu	Leu	Ser	Glu	Glu	Ile	Asn	Asn
			20					25					30		
Leu	Arg	Glu	Lys	Val	Met	Lys	Gln	Ser	Glu	Glu	Asn	Asn	Asn	Leu	Gln
		35					40					45			
Ser	Gln	Val	Gln	Lys	Leu	Thr	Glu	Glu	Asn	Thr	Thr	Leu	Arg	Glu	Gln
		50				55					60				
Val	Glu	Pro	Thr	Pro	Glu	Asp	Glu	Asp	Asp	Asp	Ile	Glu	Leu	Arg	Gly
65					70					75				80	
Ala	Ala	Ala	Ala	Ala	Ala	Pro	Pro	Pro	Pro	Ile	Glu	Glu	Glu	Cys	Pro
				85				90						95	
Glu	Asp	Leu	Pro	Glu	Lys	Phe	Asp	Gly	Asn	Pro	Asp	Met	Leu	Ala	Pro
		100						105					110		
Phe	Met	Ala	Gln	Cys	Gln	Ile	Phe	Met	Glu	Lys	Ser	Thr	Arg	Asp	Phe
		115					120					125			
Ser	Val	Asp	Arg	Val	Arg	Val	Cys	Phe	Val	Thr	Ser	Met	Met	Thr	Gly
		130				135					140				
Arg	Ala	Ala	Arg	Trp	Ala	Ser	Ala	Lys	Leu	Glu	Arg	Ser	His	Tyr	Leu
145					150					155				160	
Met	His	Asn	Tyr	Pro	Ala	Phe	Met	Met	Glu	Met	Lys	His	Val	Phe	Glu
			165						170					175	
Asp	Pro	Gln	Arg	Glu	Val	Ala	Lys	Arg	Lys	Ile	Arg	Arg	Leu	Arg	
		180					185				190				
Gln	Gly	Met	Gly	Ser	Val	Ile	Asp	Tyr	Ser	Asn	Ala	Phe	Gln	Met	Ile
		195					200				205				
Ala	Gln	Asp	Leu	Asp	Trp	Asn	Glu	Pro	Ala	Leu	Ile	Asp	Gln	Tyr	His

210	215	220
Glu Gly Leu Ser Asp His Ile Gln Glu Glu Leu Ser His Leu Glu Val		
225	230	235
Ala Lys Ser Leu Ser Ala Leu Ile Gly Gln Cys Ile His Ile Glu Arg		240
	245	250
Arg Leu Ala Arg Ala Ala Ala Arg Lys Pro Arg Ser Pro Pro Arg		255
	260	265
Ala Leu Val Leu Pro His Ile Ala Ser His His Gln Val Asp Pro Thr		270
	275	280
Glu Pro Val Gly Gly Ala Arg Met Arg Leu Thr Gln Glu Glu Lys Glu		285
	290	295
Arg Arg Arg Lys Leu Asn Leu Cys Leu Tyr Cys Gly Thr Gly Gly His		300
305	310	315
Tyr Ala Asp Asn Cys Pro Ala Lys Ala Ser Lys Ser Ser Pro Ala Gly		320
	325	330
Asn Ser Pro Ala Pro Leu		335
	340	

<210> 3825

<211> 2051

<212> DNA

<213> Homo sapiens

<400> 3825

```

nggacacctc acaggtgcgc ctccgaggag agggagggcg ccctgcgtcc ggcagaggag
60
gcgagcatcc cgctcaggtg atgaggaacc cctcgcgcac ccagcgcaga aggctgctgc
120
cgccggacgc ctccattggt tgaccacaac aagggccgga ttctcaccca ggatcctaag
180
gcctttgtag tccttcagcc actgtgggcc ctgcctctgc ctgttcttct ggaatgtctt
240
ggggggtttg atcctgtcac tgtgacctgc aaatccaaga gacacatctt tggaagataa
300
gagagcttct tcaagaccaa aaaaggagac ggcatgatac ccatgtaggg aattcccaa
360
agcagggtt gccatacctg gaccccgagg agcctgcttg ctggaaaggc tttcctgtct
420
gatgtgcagg aggcagaatg ccaaactgac tcttcaagg gcaactgcag gggctcgaga
480
ccagccagca gtatctcatc cttcgatata ggggatatac tgtacagtcc tttttctaga
540
agtgagacat acaagattac tctacaanga ggaagattcc aggggtcaa aaacgcaaag
600
gtttgcactt tgagagcccc ttggaatgtt gacaactcag gatctaaaac aaagttctgt
660
gttaatgagt tacagaattc acgtggaagt caatgtcact ttataatcga taataatact
720
gagtgaggaa cactatgcag gaagaaacct tccgtagaaa gacaggcagg gnnaaaagct
780
taggctgacc ttaacttac ctaatagagc aagcctgaga tagactgcca aaatggccaa
840
ataagagact ctatgaaata acagtcttgt aactgtagta atcataagga aattttctcc
900

```

ttgaaatcac gataccaaat aggaaaaatg atctacaagt gccccatgtg tagggaattt
 960
 ttctctgaga gatgccgagg tggtcagtat cctgactttc agaggccttt tttgtttgt
 1020
 ttttaattttt actagattga tattaaaaac tcatgtggag gaactcaagg aatgtttaga
 1080
 agacccaaaag tccccaatga caggaacaaa agcaaccaat ttttaacttt ctcttctcat
 1140
 tcctgttttc attgatttcc cacatgtagt ccttttgctc aggaagtctt tggggaaatt
 1200
 aaggatcttt gaagctctga aataggatgat caggtttagt gtgtctgtca gctgtctaag
 1260
 aggttggaat atgaactact caagatagtc acgaaaatac tgaaagtgtg atttttcttt
 1320
 ccatatttga attaattttt tctgtttgac tggaaggggt ttttgtataa ctaaacctc
 1380
 agcgcataaa ggagatttaa aaggagcaca tgatttagtg ggtgggccat gaaactagag
 1440
 atgggatttg ggggtgaatt tgtcaatatac tggattttta tccagacatac tctgctaaca
 1500
 agccttttgt aagtcacttc agatactttt cctcctttt acaaagagag ggctggctta
 1560
 gttatttgcc aaagcccctt ccaggcctga attccacaag tacaatttac tgtagtgtct
 1620
 tatcactctt tcatgtcaca atagcgtgga gcattagaga aaagcctaga ctttagttg
 1680
 atagccagtt gaaatatcat tgatagaatt ttagtttttag gaaaaattgg tttgatttct
 1740
 agctttatta ctattaggta tgtgagcttg ggcaaatcgc ttaatctttg agtctagttt
 1800
 tctctcaaaa tgagaacatt aggctaaatg atttccgagt ttccagctag tcctagagtt
 1860
 ctatatttct acatagttga attattttat catgctgttg ctggggaata tgactaaccc
 1920
 ttttgaagct actaatttta tgtcgagctt taaagtccat aattgttatc ttcagaaaaat
 1980
 attatttgac ctacagtatg tccaaatcaa ttttaataaaa tcgctttata acaggaaaaa
 2040
 aaaaaaaaaa a
 2051

<210> 3826

<211> 125

<212> PRT

<213> Homo sapiens

<400> 3826

Gly	Ile	Pro	Gln	Ser	Arg	Ala	Cys	His	Thr	Trp	Thr	Pro	Arg	Ser	Leu
1			5						10					15	
Leu	Ala	Gly	Lys	Ala	Phe	Leu	Ser	Asp	Val	Gln	Glu	Ala	Glu	Cys	Gln
		20						25					30		
Thr	Asp	Ser	Ser	Arg	Gly	Asn	Cys	Arg	Gly	Ser	Arg	Pro	Ala	Ser	Ser
		35					40						45		
Ile	Ser	Ser	Phe	Asp	Thr	Gly	Asp	Ile	Leu	Tyr	Ser	Pro	Phe	Ser	Arg

50	55	60
Ser Glu Thr Tyr Lys Ile Thr Leu Gln Xaa Gly Arg Phe Gln Gly Leu		
65	70	75
Lys Asn Ala Lys Val Cys Thr Leu Arg Ala Pro Trp Asn Val Asp Asn		80
	85	90
Ser Gly Ser Lys Thr Lys Phe Cys Val Asn Glu Leu Gln Asn Ser Arg		95
	100	105
Gly Ser Gln Cys His Phe Ile Ile Asp Asn Asn Thr Glu		110
	115	120
		125

<210> 3827

<211> 1245

<212> DNA

<213> Homo sapiens

<400> 3827

nacgcgtgcc ggagcagcaa acccaggcca gcctgaaaag tcacctctgg cgctcagcgt
 60
 ctctggagag cgtggagtgt caactgttga tgactgggtt tatattgagg agccccgagc
 120
 gtgcagaaca agagtcccaa gtcagatgaa gaggccgaga gcactaaaga agctcagaat
 180
 gaattatttg aagcacaagg acagctgcag acctgggatt ctgaggactt tgggagcccc
 240
 cagaagtcct gcagcccctc ctttgacacc ccagagagcc agatccgggg cgtgtgggaa
 300
 gagctggggg tgggcagcag cggacacctg agcagagcagg agctggctgt ggtctgccag
 360
 agcgtcgggc tccagggact cgagaaagag gaactcgaag acctgtttaa caaactggat
 420
 caagacggag acggcaaagt gagtcttgag gaattccagc ttggcctctt cagtcatgag
 480
 ccgcgctac ttctagagtc ttccactcgg gttaaaccga gcaaggcttg gtctcattac
 540
 caggtcccag aggagagcgg ctgccacacc accacaacct catccctcgt gtccctgtgc
 600
 tccagcctgc gcctcttctc cagcattgac gatggttctg gcttcgcttt tcctgatcag
 660
 gtctggcca tgtggacca ggaggggatt cagaatggca gggagatctt gcagagcctg
 720
 gacttcagcg tggacgagaa ggtgaacctt ctggagctga cctgggccct tgacaacgag
 780
 ctcatgacag tggacagtgc cgtccagcag gcagccctgg cctgctacca ccaggagctg
 840
 agctaccagc aagggcaggt ggagcagctg gcaagggagc gtgacaaggc aaggcaggac
 900
 ctggagaggg ccgagaagag gaacctggag tttgtgaaag agatggacga ctgccactcc
 960
 accctggagc agctcacgga gaagaaaatc aagcatcttg agcaggggta ccgggaaagg
 1020
 ctgagcctcc tgcggtctga ggtggaggcg gagcgagagc tgttctggga gcaggcccac
 1080
 aggcagaggg ccgcgctgga gtgggacgtg gggcgccctgc aggctgagga ggctggcctc
 1140

cgcgagaagc tgaccctggc cctgaaggaa aacagtcgcc tacagaagga gattgtggaa
 1200
 atggtggaaa agctttcgga ttccggagagg ctggccctga agctg
 1245

<210> 3828

<211> 379

<212> PRT

<213> Homo sapiens

<400> 3828

Gly	Ala	Pro	Ser	Val	Gln	Asn	Lys	Ser	Pro	Lys	Ser	Asp	Glu	Glu	Ala
1				5					10				15		
Glu	Ser	Thr	Lys	Glu	Ala	Gln	Asn	Glu	Leu	Phe	Glu	Ala	Gln	Gly	Gln
			20					25					30		
Leu	Gln	Thr	Trp	Asp	Ser	Glu	Asp	Phe	Gly	Ser	Pro	Gln	Lys	Ser	Cys
			35					40				45			
Ser	Pro	Ser	Phe	Asp	Thr	Pro	Glu	Ser	Gln	Ile	Arg	Gly	Val	Trp	Glu
			50				55				60				
Glu	Leu	Gly	Val	Gly	Ser	Ser	Gly	His	Leu	Ser	Glu	Gln	Glu	Leu	Ala
65					70				75					80	
Val	Val	Cys	Gln	Ser	Val	Gly	Leu	Gln	Gly	Leu	Glu	Lys	Glu	Glu	Leu
			85						90					95	
Glu	Asp	Leu	Phe	Asn	Lys	Leu	Asp	Gln	Asp	Gly	Asp	Gly	Lys	Val	Ser
			100					105					110		
Leu	Glu	Glu	Phe	Gln	Leu	Gly	Leu	Phe	Ser	His	Glu	Pro	Ala	Leu	Leu
			115				120						125		
Leu	Glu	Ser	Ser	Thr	Arg	Val	Lys	Pro	Ser	Lys	Ala	Trp	Ser	His	Tyr
						135						140			
Gln	Val	Pro	Glu	Glu	Ser	Gly	Cys	His	Thr	Thr	Thr	Thr	Ser	Ser	Leu
145					150					155					160
Val	Ser	Leu	Cys	Ser	Ser	Leu	Arg	Leu	Phe	Ser	Ser	Ile	Asp	Asp	Gly
				165					170					175	
Ser	Gly	Phe	Ala	Phe	Pro	Asp	Gln	Val	Leu	Ala	Met	Trp	Thr	Gln	Glu
			180					185					190		
Gly	Ile	Gln	Asn	Gly	Arg	Glu	Ile	Leu	Gln	Ser	Leu	Asp	Phe	Ser	Val
			195					200					205		
Asp	Glu	Lys	Val	Asn	Leu	Leu	Glu	Leu	Thr	Trp	Ala	Leu	Asp	Asn	Glu
					215						220				
Leu	Met	Thr	Val	Asp	Ser	Ala	Val	Gln	Gln	Ala	Ala	Leu	Ala	Cys	Tyr
225					230					235					240
His	Gln	Glu	Leu	Ser	Tyr	Gln	Gln	Gly	Gln	Val	Glu	Gln	Leu	Ala	Arg
				245					250					255	
Glu	Arg	Asp	Lys	Ala	Arg	Gln	Asp	Leu	Glu	Arg	Ala	Glu	Lys	Arg	Asn
			260					265					270		
Leu	Glu	Phe	Val	Lys	Glu	Met	Asp	Asp	Cys	His	Ser	Thr	Leu	Glu	Gln
			275				280						285		
Leu	Thr	Glu	Lys	Lys	Ile	Lys	His	Leu	Glu	Gln	Gly	Tyr	Arg	Glu	Arg
			290				295					300			
Leu	Ser	Leu	Leu	Arg	Ser	Glu	Val	Glu	Ala	Glu	Arg	Glu	Leu	Phe	Trp
305					310					315					320
Glu	Gln	Ala	His	Arg	Gln	Arg	Ala	Ala	Leu	Glu	Trp	Asp	Val	Gly	Arg
				325					330					335	
Leu	Gln	Ala	Glu	Glu	Ala	Gly	Leu	Arg	Glu	Lys	Leu	Thr	Leu	Ala	Leu

340 345 350
 Lys Glu Asn Ser Arg Leu Gln Lys Glu Ile Val Glu Met Val Glu Lys
 355 360 365
 Leu Ser Asp Ser Glu Arg Leu Ala Leu Lys Leu
 370 375

<210> 3829

<211> 5713<212> DNA

<213> Homo sapiens

<400> 3829

naccggtgac tgtatcccggt ggtttctcac ttaggactct ttttatcccc accagaaca
 60
 caggagtcct gacctgcgtt ctgaagcatt tggaatacaa cggtcacatt taagaccctg
 120
 gaggaggagc tatttgggaa caatgaggag agcccagctt ttaaggagtt cttggacctg
 180
 ctgggggaca cgatcacact gcaggatttc aaaggtttcc gaggaggcct ggacgtgacc
 240
 cacggacaga caggggtgga atcagtgtac acaacattcc gggacaggga gatcatgttt
 300
 cacgtttcca caaagctgcc atttaccgac ggagacgccc agcagctcca gagaaagaga
 360
 cacattggaa atgacatcgt ggccatcacc ttccaagagg aaaacacgcc gtttgtccca
 420
 gacatgatag cctccaattt cttacatgcc tacatcgtcg tgcaggtcga gaccccaggc
 480
 acagagaccc catcctacaa ggtctctgtc actgcgcggg aagatgtgcc cacctttggt
 540
 ccacctctgc ccagtccccc cgttttccag aaggggcccg aattcaggga gtttctgctc
 600
 accaagctca ccaatgccga gaacgcctgc tgcaagtcgg acaagtttgc aaagctggag
 660
 gaccggacca gggctgccct cctggacaac cttcacgatg agctccacgc ccacacacag
 720
 gccatgctgg gactgggccc agaggaggac aagtttgaga atggaggcca cgggggggtc
 780
 ctggagtctt ttaagagggc catccgcgta cgcagccact ccatggagac catggtgggc
 840
 ggccagaaga agtcgcacag tgggggcacc cctggcagcc tcagcggggg catctccac
 900
 aacagcatgg aggtcaccaa gaccaccttc tcgcctccag tggtaggggc aacggtgaag
 960
 aaccagtcac ggagtcccat caagcgacgc tcggggctct tccccgcct gcacacgggc
 1020
 tcagaaggcc agggcgacag ccgggcacga tgtgacagca catccagcac acccaagacc
 1080
 ccagatggtg gacactcctc tcaggagata aagtctgaga cctcatcaa tcccagctct
 1140
 ccagaaatct gcccacaa ggagaagccc ttcataaagt tgaaggaaaa cggccgcgcc
 1200
 atctcccgt cctcctccag caccagcagc gtcagcagca ctgcagggga gggcgaggcc
 1260

atggaggagg gcgacagtgg gggcagccag ccgtccacga cctcaccctt caagcaggag
1320
gtgtttgtct acagcccgtc cccgagcagc gagagcccca gcctgggggc agctgccacc
1380
ccgatcatca tgagccggag tcccacagat gccaaaagca gaaactcccc gagatcgaac
1440
ctgaaattcc gctttgacaa gctcagccat gccagctctg gtgcgggtca ctaatgtgaa
1500
agtggagtcc ttcgcctgtc caaggggaatc cctcttctg tcctggaaaa ggctcctgac
1560
ctcccagtgt gatgtccggg tcctttatca tcctattcat cctggagagg aaaagtgtcg
1620
ggcaaagggg gatctggggg gagctcagca gtgactgggg agctggtctg cctcagagac
1680
agagtagggg gtgggagcag agcctcgggt agggctcttg ccacagggca gtgccttcct
1740
gaacgtggca ggctttacta ccaggaacgc actcgggtgg ggaggcccca tgttcccagg
1800
agccaagatt cgtagcatcc ttgaggccat cctgataaaa ttcggcgcta ttgccccgt
1860
agctctggag ctctaaaccg tctatctgct tctgtgctga acgcctttcc catctgctga
1920
cgtaggcccc gggtgcctt gccctgctg ccagtgtacc gtgagcgggg ctccagccag
1980
ttcaagctca gagccagagc tggacggggc agaactgcgc tgcacacttc ctggactgag
2040
gcggggactt tgggtcccac ccggtttctc ctgattatgg ctgctgtggg gtgaggggag
2100
ggaggggag ccccgaggca gtctcttccc ttgagaaga tattttcca caaaggggtg
2160
ggaagccagg agtgagaagg aattcaggga gagcaaagga gccagtgtg agatgtgtct
2220
gtgttggttg aggaaaacct cgggcctgag ggccaggccg gagcccagg ctctgtgac
2280
aatgggggtt cagggaagac gtcgttatct cccctcccca ctactcgag gagagagggtg
2340
aggggggat gacttgcggt ttctgatcag gccctgggt ggggaagggg cacagtgtcc
2400
ctcagcagct tacgcccctg gagtcttggg gggcccagcc tggccctggg gccttttcca
2460
gctactgtgc ccttgggcag ctgcgtctgg ggtcaaccc cccaatcctg ttccccctc
2520
cagctgcggg tctgtaggca gctgtcacat ctgaagggtt tctgcaacct ggaccccatc
2580
tgggtgtggg tcagaccctg tgaccacat gccaccccca ccctccacag agccccctg
2640
ctgggacagc cagctcacct ccaaggacat cccctcctgg cttctcccc ttccaggtct
2700
gcagcgccgt gggcttctct gccgatggg ccgggttggg gttaagggtg gcatcctcca
2760
ggtacaacga gcctgaagag cccctttcag tgacagcggg gctgcagagt gacactggct
2820
gggcacctgc cccacgacca atgacaagga tttccagctg aatgctttat tcccataggg
2880

atctggacct gtgcccaaga tataaatact acactttttt tttttttttt tttttaactg
2940
acattgtgaa attctcccta tagcttttgc cattcaagca acattgtgat ctttcttccc
3000
cgccacgtgt gtgggaatga ttgagtcctg tttgcaagct ggagaggagc tctccctttg
3060
ctagtacttt ctctaaagta ctagtctagt aaaatttatt cttgttagaa ggtcaacaaa
3120
atatctgttt agcttttatg aagagtcacc gtagcagccc ccacggctgg aaagaggcct
3180
gtacgttctg gacgcgtttt gttggctggg cttctggagg cactggcaag gtcaaactgc
3240
atttctttaa gaacagttgc aggatctggc ttgcctctgt gggaagccgg cattacaggt
3300
gcttggtgga tgggccgtgt cacattgcc a tctgggttcc tttggggttt ccaggttgtc
3360
accatgctgt cccatttggg aatcccatc ctgcctgtcc ccaactgcgt ggctgacct
3420
tgctgcctgc tgctcttgg gagggtttg tccctgcctc tgagctgggtg ggcaggatgg
3480
ctgggtggcc ccagagaag cacagacctg ggatggggtc tccatgcccg gtttgcgtgt
3540
ggaatgatct gaacaggacc ccaaatgcct cttccctctg gtcatgcctc actatctcta
3600
ggagctccat cctgtggcct ccagagtgtg cacttccagc ccacccgggc agtgcctgaga
3660
gggaggagga gaacaaggat ggcccagcct cccctccctc ccctagacca cggggcgggc
3720
agctcgggtt cctggagggc tgtttccccc acgctgtccc tacatctgct ctgatctaaa
3780
atgtctttcc ttttatgctg cgcccagtct tggggctcaa agatttgccc aaacctcatt
3840
ggccctcgtg actaggctca tctagatggt gctcacgctg gtgtttgagg catttccact
3900
gtgatctcca cgaggggatg ttttccggga cacatctctg gctctgggaa ctgcctgact
3960
cactgaagaa actacttttc aggcactgta gggtcaccca tatgcctcca gctcagttga
4020
cgcttaaaaa caggtgcaga aaagctcgcg atggaaggte ttaatgagag tgtctgtcta
4080
tgccagtcac gtaaaatgac gtttcttgaa aaagattcag tggttcagct ttgtcagcat
4140
catctcaaca caagcctgct ggctcttttt agcatctcat ccaaccatgt catcgtccag
4200
atgagaaatc ttagcccagg tgaggggagt aacttgcttg aggtcacaca gctggctgtt
4260
ggcaaagctg ggattagaac cctcaaccca gggtccttcc ctctgcagcg cctacatggt
4320
tggttgaaata agtggctgcg tttcctgggg ccctgggttt tggggaagcc agttagctgc
4380
tgctttggca ctggcatgga ggtgagcagt caaggatgct ggtgaggccg cagtttctgc
4440
tctttttcat caggggggat agtctctagg atttttcagt gaggaccctt gggctttgga
4500

tgcagcttga accaagaaaa cgaggagggg aagggattca gtgaactatt cctcagtggg
 4560
 atcggttctt cagctcctga tgggggctgt gtaatggggg cagaggccag ggaaaaagat
 4620
 gctgttcacc caccctcagc ttcccttttc ctaaattaag aggaaaagtg gtcaaagaaa
 4680
 aactcttcat ttctccctga ttcttaagcg aaggtgggta atagaaactc aggtccccgt
 4740
 gacaaggcag gacaagagcc tgtttcgctt tcctccctga ccctgccagg tgccaactca
 4800
 aacactacct ttctcattgg tttctaagtc agtagagaca gatctgtttt aagcagttgg
 4860
 ggggttcagat agatctcatg ggtacaggag gccagcaggg accaggccag tcagccatgc
 4920
 tcaggacccc tcggctcctc cccagcctc tagctaccct gtatcgaggc aaggggagggc
 4980
 cagtaaagtt tgccaagcct gatcctgcag cctgggtgggg ctggctgggg tattctttta
 5040
 ccaaactctg ttttaccgcc agccccttgt acacccaat cccatgtctc cctcccttca
 5100
 gctggaccgt gtgccccctt gggaggaaga agacaagccc cactagggcc aagggcagca
 5160
 gagccctgcc gagtgagagg ctgtggggca gcggctctgt cctgtgcctt accagccctg
 5220
 gggaggggga catttggtg gaagactgga atttaattgc catcgtcttt gattttgtga
 5280
 catttctgct tggaagtgtg aactaccctc cccccccgc ttctgtctcc ttagcatgcg
 5340
 tgcagctctc tcctgttttg ggtgttcccc ttggacactc cagctcgggg actgctggcg
 5400
 tgtgagtgtg cagattcccc tgttggtcg aacctaagaa ctgtggcttg gaagtgatgc
 5460
 tccatgtgac gacgactttg ctttctttcc tcttagtgag gaggtgattc gtagatccca
 5520
 actgcctatg taatgtaaat aatgtacatt taatttattg ctatggtagc acattgtatt
 5580
 tgtaaatgta caaaacaaat tctaaaaggt tgacaaatgt atattttgtt gcttaaatgt
 5640
 gtctttgcag aaattgacaa taaataacat attttgtgtc aaaaaaaaaa aaaaaaaaaa
 5700
 aaaaaaaaaa aaa
 5713

<210> 3830

<211> 444

<212> PRT

<213> Homo sapiens

<400> 3830

Phe Lys Glu Phe Leu Asp Leu Leu Gly Asp Thr Ile Thr Leu Gln Asp
 1 5 10 15
 Phe Lys Gly Phe Arg Gly Gly Leu Asp Val Thr His Gly Gln Thr Gly
 20 25 30
 Val Glu Ser Val Tyr Thr Thr Phe Arg Asp Arg Glu Ile Met Phe His

	35							40						45					
Val 50	Ser	Thr	Lys	Leu	Pro	Phe	Thr	Asp	Gly	Ala	Gln	Gln	Leu	Glu					
Arg 65	Lys	Arg	His	Ile	Gly	Asn	Asp	Ile	Val	Ala	Ile	Ile	Phe	Gln	Glu				
Glu	Asn	Thr	Pro	Phe	Val	Pro	Asp	Met	Ile	Ala	Ser	Asn	Phe	Leu	His				
Ala	Tyr	Ile	Val	Gln	Val	Glu	Thr	Pro	Gly	Thr	Glu	Thr	Pro	Ser					
Tyr	Lys	Val	Ser	Val	Thr	Ala	Arg	Glu	Asp	Val	Pro	Thr	Phe	Gly	Pro				
Pro	Leu	Pro	Ser	Pro	Pro	Val	Phe	Gln	Lys	Gly	Pro	Glu	Phe	Arg	Glu				
Phe 145	Leu	Leu	Thr	Lys	Leu	Thr	Asn	Ala	Glu	Asn	Ala	Cys	Cys	Lys	Ser				
Asp	Lys	Phe	Ala	Lys	Leu	Glu	Asp	Arg	Thr	Arg	Ala	Ala	Leu	Leu	Asp				
Asn	Leu	His	Asp	Glu	Leu	His	Ala	His	Thr	Gln	Ala	Met	Leu	Gly	Leu				
Gly	Pro	Glu	Asp	Lys	Phe	Glu	Asn	Gly	Gly	His	Gly	Gly	Phe	Leu					
Glu	Ser	Phe	Lys	Arg	Ala	Ile	Arg	Val	Arg	Ser	His	Ser	Met	Glu	Thr				
Met 225	Val	Gly	Gly	Gln	Lys	Lys	Ser	His	Ser	Gly	Gly	Ile	Pro	Gly	Ser				
Leu	Ser	Gly	Gly	Ile	Ser	His	Asn	Ser	Met	Glu	Val	Thr	Lys	Thr	Thr				
Phe	Ser	Pro	Pro	Val	Val	Ala	Ala	Thr	Val	Lys	Asn	Gln	Ser	Arg	Ser				
Pro	Ile	Lys	Arg	Arg	Ser	Gly	Leu	Phe	Pro	Arg	Leu	His	Thr	Gly	Ser				
Glu	Gly	Gln	Gly	Asp	Ser	Arg	Ala	Arg	Cys	Asp	Ser	Thr	Ser	Ser	Thr				
Pro 305	Lys	Thr	Pro	Asp	Gly	Gly	His	Ser	Ser	Gln	Glu	Ile	Lys	Ser	Glu				
Thr	Ser	Ser	Asn	Pro	Ser	Ser	Pro	Glu	Ile	Cys	Pro	Asn	Lys	Glu	Lys				
Pro	Phe	Met	Lys	Leu	Lys	Glu	Asn	Gly	Arg	Ala	Ile	Ser	Arg	Ser	Ser				
Ser	Ser	Thr	Ser	Ser	Val	Ser	Ser	Thr	Ala	Gly	Glu	Gly	Glu	Ala	Met				
Glu	Glu	Gly	Asp	Ser	Gly	Gly	Ser	Gln	Pro	Ser	Thr	Thr	Ser	Pro	Phe				
Lys 385	Gln	Glu	Val	Phe	Val	Tyr	Ser	Pro	Ser	Pro	Ser	Ser	Glu	Ser	Pro				
Ser	Leu	Gly	Ala	Ala	Ala	Thr	Pro	Ile	Ile	Met	Ser	Arg	Ser	Pro	Thr				
Asp	Ala	Lys	Ser	Arg	Asn	Ser	Pro	Arg	Ser	Asn	Leu	Lys	Phe	Arg	Phe				
Asp	Lys	Leu	Ser	His	Ala	Ser	Ser	Gly	Ala	Gly	His								

<210> 3831

<211> 726

<212> DNA

<213> Homo sapiens

<400> 3831

```

aaatttgttg cagaagtttc ttgccttggt ttttaaggct gaggagtgga aaacattctg
60
tgtgaacaat taagagagac ttgtggcaga agtagatttc tttggcattt gcacacagga
120
gtcagaaaca aatgatgtcc atagcatttg gctgggctaa cgtctaaagt cgttagcttt
180
agacgagtat gagttctcac tctgtgttac ctgctgagtc cctgagggca tgtgagttca
240
gtcctgaaac agaccactg nccgtgtcac agatcccagc ttcgctaagc tcagctttag
300
catgttatgg tttatcgttt ctccagctcc attccacaaa ctctcatata gatagaatta
360
atttcagtgt aaaaatgggtg tcattctattc ttcagatacc taagttgtca tatctggggc
420
tgggagacat taaaaatatg gagcaaaaat actgcaacct gtgtatccaa cttttcatct
480
cttttcttct ccttacagtc cagacctttt agccctccca ttcattcttc cagccctcct
540
ccaatagcac ccttagcgcg ggctgaaagc acttcttcaa tatcggaac caattccttg
600
agcgagcca ccactccac agttgagaat gaacagcctt ccctcgtttg gggtgacaga
660
ggaaagggtt atttgacttt tgaaggttct tccaggggac ccagccccct aaccatggga
720
gctcag
726

```

<210> 3832

<211> 107

<212> PRT

<213> Homo sapiens

<400> 3832

```

Met Ser Ser His Ser Val Leu Pro Ala Glu Ser Leu Arg Ala Cys Glu
1           5           10           15
Phe Ser Pro Glu Thr Asp Pro Leu Xaa Val Ser Gln Ile Pro Ala Ser
20           25           30
Leu Ser Ser Ala Leu Ala Cys Tyr Gly Leu Ser Phe Leu Gln Leu His
35           40           45
Ser Thr Asn Ser His Ile Asp Arg Ile Asn Phe Ser Val Lys Met Val
50           55           60
Ser Ser Ile Leu Gln Ile Pro Lys Leu Ser Tyr Leu Gly Leu Gly Asp
65           70           75           80
Ile Lys Asn Met Glu Gln Lys Tyr Cys Asn Leu Cys Ile Gln Leu Phe
85           90           95
Ile Ser Phe Leu Leu Leu Thr Val Gln Thr Phe
100          105

```

<210> 3833

<211> 1764

<212> DNA

<213> Homo sapiens

<400> 3833

gctagcggca gcgcgggaa gcccaactggc gaggcggctt ctccggctcc tgcgagcgcc
60
ggcggcgggg ccagctcgca gccgcggaag aagctggtat ccgtctcgca ccaactgcaag
120
ggcaagatgc agctggtggc tgacctgctg ctgctgtcga gcgaggcgcg gcccggtgctc
180
ttcgagggcc ccgcctcctc tggtgccggc gccgagtcct tcgagcaggg ccgggacacc
240
atcatcgcg gcaccaaggg gctctccatc ctcacccacg acgtgcagag ccagctcaac
300
atgggccgct tcggggaggg gggggacagc ctggtggagc tgggcgacct ggtggtgtcg
360
ctgaccgagt gctcgggcca cgcggcctat ctggccgctg tggccacgcc gggcgcccag
420
cccgcgagc cgggcctggt ggaccgctac cgcgtgacgc gatgccgcca cgaggtggag
480
cagggttgcg ccgtgctgcg cggcacgccg ctggccgaca tgacgcgca gctgctgctg
540
gaggtgtcgc agggcctgtc gcgcaacctc aagtccctga cggacgcgtg cgccctggcc
600
agtgacaagt cacgggaccg cttttcgcg gagcagttca agctgggct caagtgcagt
660
agcaccagcg cgtcggcgct gctggcctgc gtgcgcgagg tgaagggtggc gcccgatgag
720
ctggcgcgca gccgctgtgc gctcttcagc gggcccctgg tgcaggcagt gagcgccctg
780
gtaggcttcg ccaccgagcc gcagttcctg ggtcgcgcg cagctgtgag cgccgagggc
840
aaggcgggtgc agaccgccat cctgggcggc gccatgagcg tgggtgtcggc ctgctgtgctc
900
ctgaccagct gcctcagggg tctggcgagc caccgcgagc gggcgccaa gatgtcggac
960
cacagggaga ggctgaggaa ctcggcctgc gccgtgtctg aaggctgcac cctgctatct
1020
caggctttaa gggagaggtc ttcgcccagg actttaccgc cagtgaattc caattctgtg
1080
aattagcacc ccacccccat accccttctt ccacccccag actaaaggaa gatacttact
1140
ctctgcccct ctccatttat accaaagaaa tcataggtga aacccccctac cctccccaac
1200
gttaaagtct cgagaggaat cttccacaag gcaggggccat gcacgcaacc tgcacacgca
1260
cttgaggggc ccagggtgtct ctccaccagc ccccatgcag tagggactgg aagatatgtc
1320
atctgctggt tgtgttatca ctcccacccc ctacccagc ccgtcttcg gaattctctca
1380
actaaatttc attattgggc aggaaggagg tcatgggttc atttcatttt tgttttttgt
1440
gtttttaatt aaaagaaagg ttacctcagt tttcactcct tagacatgga tgtagctacc
1500

tttttttgta tgtctttttt ttttttaagc aatcgtgttg aattaggagt atacttggtg
 1560
 tggaaagagt atgaatttgc catgtgattt gcaaattgggg ggaagctact gtgagcgtgt
 1620
 gtttttttaa tttacactat agagtgattt ttttttcccc caacgtcaag tttttacctt
 1680
 gcattgtactg gagtatttat ttcattctatt aaaatgttat gttttctcaa aaaaaaaaaa
 1740
 aaaaaaagtt ttgccctgtc gacc
 1764

<210> 3834

<211> 361

<212> PRT

<213> Homo sapiens

<400> 3834

Ala	Ser	Gly	Ser	Ala	Gly	Lys	Pro	Thr	Gly	Glu	Ala	Ala	Ser	Pro	Ala
1				5					10					15	
Pro	Ala	Ser	Ala	Gly	Gly	Gly	Ala	Ser	Ser	Gln	Pro	Arg	Lys	Lys	Leu
			20					25					30		
Val	Ser	Val	Cys	Asp	His	Cys	Lys	Gly	Lys	Met	Gln	Leu	Val	Ala	Asp
		35					40					45			
Leu	Leu	Leu	Leu	Ser	Ser	Glu	Ala	Arg	Pro	Val	Leu	Phe	Glu	Gly	Pro
	50					55					60				
Ala	Ser	Ser	Gly	Ala	Gly	Ala	Glu	Ser	Phe	Glu	Gln	Gly	Arg	Asp	Thr
65					70					75				80	
Ile	Ile	Ala	Arg	Thr	Lys	Gly	Leu	Ser	Ile	Leu	Thr	His	Asp	Val	Gln
			85						90					95	
Ser	Gln	Leu	Asn	Met	Gly	Arg	Phe	Gly	Glu	Ala	Gly	Asp	Ser	Leu	Val
			100					105					110		
Glu	Leu	Gly	Asp	Leu	Val	Val	Ser	Leu	Thr	Glu	Cys	Ser	Ala	His	Ala
		115					120						125		
Ala	Tyr	Leu	Ala	Ala	Val	Ala	Thr	Pro	Gly	Ala	Gln	Pro	Ala	Gln	Pro
		130					135					140			
Gly	Leu	Val	Asp	Arg	Tyr	Arg	Val	Thr	Arg	Cys	Arg	His	Glu	Val	Glu
145					150					155				160	
Gln	Gly	Cys	Ala	Val	Leu	Arg	Ala	Thr	Pro	Leu	Ala	Asp	Met	Thr	Pro
			165						170					175	
Gln	Leu	Leu	Leu	Glu	Val	Ser	Gln	Gly	Leu	Ser	Arg	Asn	Leu	Lys	Phe
			180					185					190		
Leu	Thr	Asp	Ala	Cys	Ala	Leu	Ala	Ser	Asp	Lys	Ser	Arg	Asp	Arg	Phe
		195					200						205		
Ser	Arg	Glu	Gln	Phe	Lys	Leu	Gly	Val	Lys	Cys	Met	Ser	Thr	Ser	Ala
	210					215					220				
Ser	Ala	Leu	Leu	Ala	Cys	Val	Arg	Glu	Val	Lys	Val	Ala	Pro	Ser	Glu
225					230					235				240	
Leu	Ala	Arg	Ser	Arg	Cys	Ala	Leu	Phe	Ser	Gly	Pro	Leu	Val	Gln	Ala
			245						250					255	
Val	Ser	Ala	Leu	Val	Gly	Phe	Ala	Thr	Glu	Pro	Gln	Phe	Leu	Gly	Arg
			260					265					270		
Ala	Ala	Ala	Val	Ser	Ala	Glu	Gly	Lys	Ala	Val	Gln	Thr	Ala	Ile	Leu
		275					280						285		
Gly	Gly	Ala	Met	Ser	Val	Val	Ser	Ala	Cys	Val	Leu	Leu	Thr	Gln	Cys

290		295		300
Leu Arg Asp	Leu Ala Gln His Pro Asp Gly Gly Ala Lys Met Ser Asp			
305		310		315
His Arg Glu Arg	Leu Arg Asn Ser Ala Cys Ala Val Ser Glu Gly Cys			320
		325		330
Thr Leu Leu Ser	Gln Ala Leu Arg Glu Arg Ser Ser Pro Arg Thr Leu			335
		340		345
Pro Pro Val Asn	Ser Asn Ser Val Asn			350
		355		360

<210> 3835

<211> 2366

<212> DNA

<213> Homo sapiens

<400> 3835

nacgcgttcg atatccgccc ggagctccgg cgcagctcct ccaccttgga gctcatgaga
 60
 gcaggcctgg tggtagcag ggacggtgca ccggacggcg ggatcgagca aatgggtctg
 120
 gccatggagc acggagggtc ctacgctcgg gcggggggca gctctcgggg ctgctggtat
 180
 tacctgcgct acttcttctt cttcgtctcc ctcatccaat tcctcatcat cctggggctc
 240
 gtgctcttca tggcttatgg caacgtgcac gtgagcacag agtccaacct gcaggccacc
 300
 gagcgccgag ccgagggcct atacagtcag ctcttagggc tcacggcctc ccagtccaac
 360
 ttgaccaagg agctcaactt caccacccgc gccaaaggatg ccatcatgca gatgtggctg
 420
 aatgctcgcc gcgacctgga ccgcatcaat gccagcttcc gccagtgccg gggtagccgg
 480
 gtcatctaca cgaacaatca gaggtacatg gctgccatca tcttgagtga gaagcaatgc
 540
 agagatcaat tcaaggacat gaacaagagc tgcgatgcct tgctcttcat gctgaatcag
 600
 aaggtagaaga cgctggaggt ggagatagcc aaggagaaga ccatttgac taaggataag
 660
 gaaagcgtgc tgctgaacaa acgcgtggcg gaggaacagc tggttgaatg cgtgaaaacc
 720
 cgggagctgc agcaccaaga gcgccagctg gccaaaggagc aactgcaaaa ggtgcaagcc
 780
 ctctgcctgc ccctggacaa ggacaagttt gagatggacc ttcgtaacct gtggagggac
 840
 tccattatcc cagcagcct ggacaacctg gggtacaacc tctaccatcc cctgggctcg
 900
 gaattggcct ccatccgcag agcctgcgac cacatgccca gcctcatgag ctccaagggtg
 960
 gaggagctgg cccggagcct ccgggcggat atcgaacgcg tggcccgcga gaactcagac
 1020
 ctccaacgcc agaagctgga agcccagcag ggctgcggg ccagtccagg ggcgaacag
 1080
 aaggtaggaga aggaggtca ggcccgggag gccaaagctcc aagctgaatg ctcccggcag
 1140

acccagctag cgctggagga gaaggcgggtg ctgcggaagg aacgagacaa cctggccaag
 1200
 gagctggaag agaagaagag ggaggcggag cagctcagga tggagctggc catcagaaac
 1260
 tcagccctgg acacctgcat caagaccaag tcgcagccga tgatgccagt gtcaaggccc
 1320
 atggggccctg tccccaaacc ccagcccatc gaccagcta gcctggagga gttcaaggag
 1380
 aagatcctgg agtcccagag gccccctgca ggcatccctg tagcccatc cagtggctga
 1440
 ggaggctcca ggctgagga ccaagggatg gcccgactcg gcggtttgag gaggatgcag
 1500
 ggatatgtc acagcgcccg acacaacccc ctcccgccgc cccaaccac ccagggccac
 1560
 catcagacaa ctccctgcat gcaaaccct agtaccctct cacaccgca ccgcgcctc
 1620
 acgatccctc acccagagca caggccgcg gagatgacgt cacccaagca acggcgctga
 1680
 cgtcacatat caccgtggtg atggcgctac gtggccatgt agacgtcacg aagagatata
 1740
 gcgatggcgt cgtgcagatg cagcacgtcg cacacagaca tggggaactt ggcattgacgt
 1800
 cacaccgaga tgcagcaacg acgtcacggg ccatgtcgac gtcacacata ttaatgtcac
 1860
 acagacgagg cgatggcatc acacagacgg tgatgatgtc acacacagac acagtgacaa
 1920
 cacacacat gacaacgaca cctatagata tggcaccaac atcacatgca cgcattgcct
 1980
 ttcacacaca ctttctaccc aattctcacc tagtgtcagc tcccccgac cctggcacac
 2040
 gggccaaggt acccagagga tcccatcccc tcccgcacag ccctggggcc cagcacctcc
 2100
 cctcctccag cttcctggcc tcccagccac ttctcacc ccagtgcctg gaccggagg
 2160
 tgagaacagg aagccattca cctccgctcc ttgagcgtga gtgtttccag gaccctcgt
 2220
 gggccctgag ccgggggtga gggtcacctg ttgtcgggag gggagccact ccttctcccc
 2280
 caactcccag ccctgcctgt ggcccgttga aatgttggtg gcacttaata aatattagta
 2340
 aatccttaaa aaaaaaaaaa aaaaaa
 2366

<210> 3836

<211> 479

<212> PRT

<213> Homo sapiens

<400> 3836

Xaa	Ala	Phe	Asp	Ile	Arg	Pro	Glu	Leu	Arg	Arg	Ser	Ser	Ser	Thr	Leu
1				5				10						15	
Glu	Leu	Met	Arg	Ala	Gly	Leu	Val	Val	Ser	Arg	Asp	Gly	Ala	Pro	Asp
			20					25					30		
Gly	Gly	Ile	Glu	Gln	Met	Gly	Leu	Ala	Met	Glu	His	Gly	Gly	Ser	Tyr

```

      35      40      45
Ala Arg Ala Gly Gly Ser Ser Arg Gly Cys Trp Tyr Tyr Leu Arg Tyr
  50      55      60
Phe Phe Leu Phe Val Ser Leu Ile Gln Phe Leu Ile Ile Leu Gly Leu
  65      70      75      80
Val Leu Phe Met Val Tyr Gly Asn Val His Val Ser Thr Glu Ser Asn
      85      90      95
Leu Gln Ala Thr Glu Arg Arg Ala Glu Gly Leu Tyr Ser Gln Leu Leu
      100      105      110
Gly Leu Thr Ala Ser Gln Ser Asn Leu Thr Lys Glu Leu Asn Phe Thr
      115      120      125
Thr Arg Ala Lys Asp Ala Ile Met Gln Met Trp Leu Asn Ala Arg Arg
      130      135      140
Asp Leu Asp Arg Ile Asn Ala Ser Phe Arg Gln Cys Gln Gly Asp Arg
  145      150      155      160
Val Ile Tyr Thr Asn Asn Gln Arg Tyr Met Ala Ala Ile Ile Leu Ser
      165      170      175
Glu Lys Gln Cys Arg Asp Gln Phe Lys Asp Met Asn Lys Ser Cys Asp
      180      185      190
Ala Leu Leu Phe Met Leu Asn Gln Lys Val Lys Thr Leu Glu Val Glu
      195      200      205
Ile Ala Lys Glu Lys Thr Ile Cys Thr Lys Asp Lys Glu Ser Val Leu
  210      215      220
Leu Asn Lys Arg Val Ala Glu Glu Gln Leu Val Glu Cys Val Lys Thr
  225      230      235      240
Arg Glu Leu Gln His Gln Glu Arg Gln Leu Ala Lys Glu Gln Leu Gln
      245      250      255
Lys Val Gln Ala Leu Cys Leu Pro Leu Asp Lys Asp Lys Phe Glu Met
      260      265      270
Asp Leu Arg Asn Leu Trp Arg Asp Ser Ile Ile Pro Arg Ser Leu Asp
      275      280      285
Asn Leu Gly Tyr Asn Leu Tyr His Pro Leu Gly Ser Glu Leu Ala Ser
  290      295      300
Ile Arg Arg Ala Cys Asp His Met Pro Ser Leu Met Ser Ser Lys Val
  305      310      315      320
Glu Glu Leu Ala Arg Ser Leu Arg Ala Asp Ile Glu Arg Val Ala Arg
      325      330      335
Glu Asn Ser Asp Leu Gln Arg Gln Lys Leu Glu Ala Gln Gln Gly Leu
      340      345      350
Arg Ala Ser Gln Glu Ala Lys Gln Lys Val Glu Lys Glu Ala Gln Ala
      355      360      365
Arg Glu Ala Lys Leu Gln Ala Glu Cys Ser Arg Gln Thr Gln Leu Ala
  370      375      380
Leu Glu Glu Lys Ala Val Leu Arg Lys Glu Arg Asp Asn Leu Ala Lys
  385      390      395      400
Glu Leu Glu Glu Lys Lys Arg Glu Ala Glu Gln Leu Arg Met Glu Leu
      405      410      415
Ala Ile Arg Asn Ser Ala Leu Asp Thr Cys Ile Lys Thr Lys Ser Gln
      420      425      430
Pro Met Met Pro Val Ser Arg Pro Met Gly Pro Val Pro Asn Pro Gln
      435      440      445
Pro Ile Asp Pro Ala Ser Leu Glu Glu Phe Lys Arg Lys Ile Leu Glu
  450      455      460
Ser Gln Arg Pro Pro Ala Gly Ile Pro Val Ala Pro Ser Ser Gly

```

465

470

475

<210> 3837

<211> 2084

<212> DNA

<213> Homo sapiens

<400> 3837

nagaggaggc ttttctctgg tgcttggcag atgcatgaag agactgatgg catgtggact
60
attcagaaaa ctgtggcaca ctgttgggtg caaggtgacc ttatgagatg ggctgacagt
120
ggggactgcc aactcatgtg tctgttttagc tcaccttttc ctgtgcccac cctccaaccc
180
cccaaccatg tgggaaggaa atgtttggcc ctctgaccct aactacatcc cacagactgg
240
gatggaaagg tgtctgagat taagaagaag atcaagtcga tcctgcctgg aaggtcctgt
300
gactctactgc aagacaccag ccacctgcct cccgagcact cggatgtggt gatcgtggga
360
ggtgggggtgc ttggcttgtc tgtggcctat tggctgaaga agctggagag cagacgaggt
420
gctattcgag tgctagtggg ggaacgggac cacacgtatt cacaggcctc caccgggctc
480
tcagtaggtg ggatttgtca gcagttctca ttgcctgaga acatccagct ctccctcttt
540
tcagccagct ttctacggaa catcaatgag tacctggccg tagtcgatgc tcctccctg
600
gacctccggt tcaaccctc gggctacctc ttgctggctt cagaaaagga tgctgcagcc
660
atggagagca acgtgaaagt gcagaggcag gaggagacca aagtttctct gatgtctcct
720
gatcagcttc ggaacaagtt tccctggata aacacagagg gagtggcttt ggctcttat
780
gggatggagg acgaagggtt gtttgacccc tgggtgtctgc tccaggggct tcggcgaaag
840
gtccagtcct tgggagtcct tttctgccag ggagaggtga cacgttttgt ctcttcatct
900
caacgcattg tgaccacaga tgacaaagcg gtggtcttga aaaggatcca tgaagtccat
960
gtgaagatgg accgcagcct ggagtaccag cctgtggaat gcgccattgt gatcaacgca
1020
gccggagcct ggtctgcgca aatcgagca ctggctgggtg ttggagaggg gccgcctggc
1080
accctgcagg gcaccaagct acctgtggag ccgaggaaaa ggtatgtgta tgtgtggcac
1140
tgccccagg gaccaggcct agagactccg cttgttgagc acaccagtgg agcctatatt
1200
cgccgggaag gattaggtag caactaccta ggtggctgta gcccactga gcaggaagaa
1260
ccgggacccg cgaacctgga agtggacat gatctcttcc aggacaaggt gtggccccat
1320
ttggccctga gggccccagc ttttgagact ctgaagtgtt ttgtgcaccc gcaggttcag
1380

agcgccctggg ccggctatta cgactacaac acctttgacc agaatggcgt ggtgggcccc
 1440
 caccgcctag ttgtcaacat gtactttgct actggcttca gtggtcacgg gctccagcag
 1500
 gcccttgcca ttgggcgagc tgtagcagag atggtactga agggcagggt ccagaccatc
 1560
 gacctgagcc ccttcctctt taccgccttt tacttgggag agaagatcca ggagaacaac
 1620
 atcatctgag catgtgtgct ctgcactggc tccactggct tgcatactgg ctgtgttcac
 1680
 agccttgttt gctgcttcca tcttccccag tactgtgcca ggccttctcc ccttccccag
 1740
 tgtcctctcc tctcaggcag gccattgcac ccatatggct gggcaggcac aggcagttag
 1800
 gccgaggcca atagcgagtg atgagcggga tccataggact gatctgtagc ccatgctgat
 1860
 gtcaccacc agggaatcc atctggaggc ctgagcacc tggcccagga ctggcttcat
 1920
 cctggcactg accaggaaa actgcctctg accctcttag cagacagagc ccaggcatgg
 1980
 gagcactctg gggcagcctg gctcaggttt attgattttc gtctgtttac cctatccatt
 2040
 aatcaataca tgtaattaac tccttcaaaa aaaaaaaaaa aaaa
 2084

<210> 3838

<211> 468

<212> PRT

<213> Homo sapiens

<400> 3838

Leu	His	Pro	Thr	Asp	Trp	Asp	Gly	Lys	Val	Ser	Glu	Ile	Lys	Lys	Lys
1				5				10						15	
Ile	Lys	Ser	Ile	Leu	Pro	Gly	Arg	Ser	Cys	Asp	Leu	Leu	Gln	Asp	Thr
			20				25						30		
Ser	His	Leu	Pro	Pro	Glu	His	Ser	Asp	Val	Val	Ile	Val	Gly	Gly	Gly
		35				40						45			
Val	Leu	Gly	Leu	Ser	Val	Ala	Tyr	Trp	Leu	Lys	Lys	Leu	Glu	Ser	Arg
	50				55					60					
Arg	Gly	Ala	Ile	Arg	Val	Leu	Val	Val	Glu	Arg	Asp	His	Thr	Tyr	Ser
65				70					75					80	
Gln	Ala	Ser	Thr	Gly	Leu	Ser	Val	Gly	Gly	Ile	Cys	Gln	Gln	Phe	Ser
			85				90						95		
Leu	Pro	Glu	Asn	Ile	Gln	Leu	Ser	Leu	Phe	Ser	Ala	Ser	Phe	Leu	Arg
			100				105						110		
Asn	Ile	Asn	Glu	Tyr	Leu	Ala	Val	Val	Asp	Ala	Pro	Pro	Leu	Asp	Leu
	115					120						125			
Arg	Phe	Asn	Pro	Ser	Gly	Tyr	Leu	Leu	Leu	Ala	Ser	Glu	Lys	Asp	Ala
	130				135					140					
Ala	Ala	Met	Glu	Ser	Asn	Val	Lys	Val	Gln	Arg	Gln	Glu	Gly	Ala	Lys
145				150					155					160	
Val	Ser	Leu	Met	Ser	Pro	Asp	Gln	Leu	Arg	Asn	Lys	Phe	Pro	Trp	Ile
			165				170						175		
Asn	Thr	Glu	Gly	Val	Ala	Leu	Ala	Ser	Tyr	Gly	Met	Glu	Asp	Glu	Gly

180				185				190							
Trp	Phe	Asp	Pro	Trp	Cys	Leu	Leu	Gln	Gly	Leu	Arg	Arg	Lys	Val	Gln
195				200				205							
Ser	Leu	Gly	Val	Leu	Phe	Cys	Gln	Gly	Glu	Val	Thr	Arg	Phe	Val	Ser
210				215				220							
Ser	Ser	Gln	Arg	Met	Leu	Thr	Thr	Asp	Asp	Lys	Ala	Val	Val	Leu	Lys
225				230				235				240			
Arg	Ile	His	Glu	Val	His	Val	Lys	Met	Asp	Arg	Ser	Leu	Glu	Tyr	Gln
245				250				255							
Pro	Val	Glu	Cys	Ala	Ile	Val	Ile	Asn	Ala	Ala	Gly	Ala	Trp	Ser	Ala
260				265				270							
Gln	Ile	Ala	Ala	Leu	Ala	Gly	Val	Gly	Glu	Gly	Pro	Pro	Gly	Thr	Leu
275				280				285							
Gln	Gly	Thr	Lys	Leu	Pro	Val	Glu	Pro	Arg	Lys	Arg	Tyr	Val	Tyr	Val
290				295				300							
Trp	His	Cys	Pro	Gln	Gly	Pro	Gly	Leu	Glu	Thr	Pro	Leu	Val	Ala	Asp
305				310				315				320			
Thr	Ser	Gly	Ala	Tyr	Phe	Arg	Arg	Glu	Gly	Leu	Gly	Ser	Asn	Tyr	Leu
325				330				335							
Gly	Gly	Arg	Ser	Pro	Thr	Glu	Gln	Glu	Glu	Pro	Asp	Pro	Ala	Asn	Leu
340				345				350							
Glu	Val	Asp	His	Asp	Phe	Phe	Gln	Asp	Lys	Val	Trp	Pro	His	Leu	Ala
355				360				365							
Leu	Arg	Val	Pro	Ala	Phe	Glu	Thr	Leu	Lys	Cys	Phe	Val	His	Pro	Gln
370				375				380							
Val	Gln	Ser	Ala	Trp	Ala	Gly	Tyr	Tyr	Asp	Tyr	Asn	Thr	Phe	Asp	Gln
385				390				395				400			
Asn	Gly	Val	Val	Gly	Pro	His	Pro	Leu	Val	Val	Asn	Met	Tyr	Phe	Ala
405				410				415							
Thr	Gly	Phe	Ser	Gly	His	Gly	Leu	Gln	Gln	Ala	Pro	Gly	Ile	Gly	Arg
420				425				430							
Ala	Val	Ala	Glu	Met	Val	Leu	Lys	Gly	Arg	Phe	Gln	Thr	Ile	Asp	Leu
435				440				445							
Ser	Pro	Phe	Leu	Phe	Thr	Arg	Phe	Tyr	Leu	Gly	Glu	Lys	Ile	Gln	Glu
450				455				460							
465															

<210> 3839

<211> 758

<212> DNA

<213> Homo sapiens

<400> 3839

nnacgcgtgc aggactctct ggaagtcacc cttcccagca aacaagagga ggaggatgag
60

gaggaggagg aggaggagaa agaccagcct gccgagatgg agtaccttaa ctctcgctgt
120

gtccttttca cttattttcca gggagacatt gggtcagtag tggatgaaca cttctcaaga
180

gctttgggccc aagccatcac cctccatcca gaatctgcca tttcaaaaag caagatgggg
240

ctaaccccc tatggcgaga cagctcagct ctctcaagcc agcggaatag ttcccaact
300

tccttttggga ccagctctta ccagccccc cctgcacctt gtttgggggg agttcatect
 360
 gacttccagg tcaactggacc ccttggcacc ttttctgcag ctgatcccag tccttggccg
 420
 ggacacaacc tgcatacagac tggcccagcc cctccccctg ctgtgtctga gtcctggcct
 480
 tatectttga catctcaggt gagcccatcc tacagccata tgcatacagt gtacatgcgg
 540
 caccaccacc ctcatagccc catgcaccac cgccaccgcc accatcatca ccatcaccac
 600
 cctcctgctg gctctgccct ggatccatcc tatgggcctc tgctgatgcc ttcagtgcac
 660
 ggggccagga ttcctgctcc ccagtgtgac atcacaaga cagaaccaac tacagtcacc
 720
 tctgtacct cagcatgggc tggagccttt catggaac
 758

<210> 3840

<211> 252

<212> PRT

<213> Homo sapiens

<400> 3840

Xaa	Arg	Val	Gln	Asp	Ser	Leu	Glu	Val	Thr	Leu	Pro	Ser	Lys	Gln	Glu
1			5					10					15		
Glu	Glu	Asp	Glu	Glu	Glu	Glu	Glu	Lys	Asp	Gln	Pro	Ala	Glu		
		20					25			30					
Met	Glu	Tyr	Leu	Asn	Ser	Arg	Cys	Val	Leu	Phe	Thr	Tyr	Phe	Gln	Gly
		35				40				45					
Asp	Ile	Gly	Ser	Val	Val	Asp	Glu	His	Phe	Ser	Arg	Ala	Leu	Gly	Gln
	50					55				60					
Ala	Ile	Thr	Leu	His	Pro	Glu	Ser	Ala	Ile	Ser	Lys	Ser	Lys	Met	Gly
65					70				75					80	
Leu	Thr	Pro	Leu	Trp	Arg	Asp	Ser	Ser	Ala	Leu	Ser	Ser	Gln	Arg	Asn
			85					90					95		
Ser	Phe	Pro	Thr	Ser	Phe	Trp	Thr	Ser	Ser	Tyr	Gln	Pro	Pro	Pro	Ala
		100						105					110		
Pro	Cys	Leu	Gly	Gly	Val	His	Pro	Asp	Phe	Gln	Val	Thr	Gly	Pro	Pro
		115					120					125			
Gly	Thr	Phe	Ser	Ala	Ala	Asp	Pro	Ser	Pro	Trp	Pro	Gly	His	Asn	Leu
	130					135					140				
His	Gln	Thr	Gly	Pro	Ala	Pro	Pro	Pro	Ala	Val	Ser	Glu	Ser	Trp	Pro
145					150				155						160
Tyr	Pro	Leu	Thr	Ser	Gln	Val	Ser	Pro	Ser	Tyr	Ser	His	Met	His	Asp
			165					170					175		
Val	Tyr	Met	Arg	His	His	His	Pro	His	Ala	His	Met	His	His	Arg	His
		180						185					190		
Arg	His	His	His	His	His	His	His	Pro	Pro	Ala	Gly	Ser	Ala	Leu	Asp
		195					200					205			
Pro	Ser	Tyr	Gly	Pro	Leu	Leu	Met	Pro	Ser	Val	His	Ala	Ala	Arg	Ile
	210					215					220				
Pro	Ala	Pro	Gln	Cys	Asp	Ile	Thr	Lys	Thr	Glu	Pro	Thr	Thr	Val	Thr
225					230					235					240
Ser	Ala	Thr	Ser	Ala	Trp	Ala	Gly	Ala	Phe	His	Gly				

245

250

<210> 3841

<211> 367

<212> DNA

<213> Homo sapiens

<400> 3841

ctgggaactc cccacacttc cgtgggcaac atcttgggggt cattgatcgc tggctactgg
 60
 gtgtccacat gctggggcct gtctttcgtc gtgcctggag ccatcgtggc agccatgggg
 120
 atagtgtgct ttctcttcct cattgaacat ccgaacgacg tcaggtgctc ctccaccctg
 180
 gtgacgcact caaaaggcta tgagaatggg acaaacaggt tgagcctccc gaagccaatc
 240
 ttgaagagcg aaaagaacaa gcctctggac ccagagatgc agtgctgct gctctcagat
 300
 gggaagggct ccatecaccc gaaccacgtc gtcattctcc ccggggacgg tgggagtggc
 360
 ccggccg
 367

<210> 3842

<211> 122

<212> PRT

<213> Homo sapiens

<400> 3842

Leu	Gly	Thr	Pro	His	Thr	Ser	Val	Gly	Asn	Ile	Leu	Gly	Ser	Leu	Ile
1				5					10					15	
Ala	Gly	Tyr	Trp	Val	Ser	Thr	Cys	Trp	Gly	Leu	Ser	Phe	Val	Val	Pro
			20					25					30		
Gly	Ala	Ile	Val	Ala	Ala	Met	Gly	Ile	Val	Cys	Phe	Leu	Phe	Leu	Ile
		35				40					45				
Glu	His	Pro	Asn	Asp	Val	Arg	Cys	Ser	Ser	Thr	Leu	Val	Thr	His	Ser
	50				55						60				
Lys	Gly	Tyr	Glu	Asn	Gly	Thr	Asn	Arg	Leu	Ser	Leu	Pro	Lys	Pro	Ile
65				70					75					80	
Leu	Lys	Ser	Glu	Lys	Asn	Lys	Pro	Leu	Asp	Pro	Glu	Met	Gln	Cys	Leu
			85					90					95		
Leu	Leu	Ser	Asp	Gly	Lys	Gly	Ser	Ile	His	Pro	Asn	His	Val	Val	Ile
			100					105					110		
Leu	Pro	Gly	Asp	Gly	Gly	Ser	Gly	Pro	Ala						
		115					120								

<210> 3843

<211> 712

<212> DNA

<213> Homo sapiens

<400> 3843

ngctgtccgg cccgcagggc ggtcgaggtg ggaacggagc agccccgggg gcccccttga
 60

ggcggcgagg ccgcgaaggg cgcggggctg gaggcccgcg gcgccatggc tcacgtcggc
 120
 tcccgcgaagc gctcgaggag tcgcagccgg tcccggggac gggggtcgga aaagagaaag
 180
 aagaagagca ggaaagacac ctcgaggaac tgctcggcct ccacatccca aggtcgcaag
 240
 gccagcacgg cccctggggc ggaggcctca ctttctccct gcatcacaga gagaagcaag
 300
 cagaaggccc ggaggagaac aagatccagc tctctctcct cttcttccag ttcttctagc
 360
 tctcttcttt cctctctgtc ctctctctct tctccagtg atggccggaa gaagcggggg
 420
 aagtacaagg acaagaggag gaagaagaag aagaagagga agaagctgaa gaagaagggc
 480
 aaggagaagg cggaagcaca gcaggcagag catcatccgc aagggtggtg accctgagac
 540
 ggggcgcacc aggcttatta agggagatgg cgaggtccta gaggaaatcg taaccaaaga
 600
 acgacacaga gagatcaaca agcaagccac ccgaggggac tgcttggcct tccagatgcg
 660
 agctgggttg cttcttgagg gccccgctgg caaggctgtg gacgacgctg gc
 712

<210> 3844

<211> 143

<212> PRT

<213> Homo sapiens

<400> 3844

Met	Ala	His	Val	Gly	Ser	Arg	Lys	Arg	Ser	Arg	Ser	Arg	Ser	Arg	Ser
1				5				10					15		
Arg	Gly	Arg	Gly	Ser	Glu	Lys	Arg	Lys	Lys	Lys	Ser	Arg	Lys	Asp	Thr
			20					25					30		
Ser	Arg	Asn	Cys	Ser	Ala	Ser	Thr	Ser	Gln	Gly	Arg	Lys	Ala	Ser	Thr
		35					40					45			
Ala	Pro	Gly	Ala	Glu	Ala	Ser	Pro	Ser	Pro	Cys	Ile	Thr	Glu	Arg	Ser
	50					55					60				
Lys	Gln	Lys	Ala	Arg	Arg	Arg	Thr	Arg	Ser	Ser	Ser	Ser	Ser	Ser	Ser
65					70					75				80	
Ser	Ser	Ser	Ser	Ser	Ser	Ser	Ser	Ser	Ser	Ser	Ser	Ser	Ser	Ser	Ser
			85							90				95	
Ser	Ser	Asp	Gly	Arg	Lys	Lys	Arg	Gly	Lys	Tyr	Lys	Asp	Lys	Arg	Arg
			100					105					110		
Lys	Lys	Lys	Lys	Lys	Arg	Lys	Lys	Leu	Lys	Lys	Lys	Gly	Lys	Glu	Lys
		115					120					125			
Ala	Glu	Ala	Gln	Gln	Ala	Glu	His	His	Pro	Gln	Gly	Gly	Gly	Pro	
	130					135						140			

<210> 3845

<211> 2302

<212> DNA

<213> Homo sapiens

<400> 3845

nacgcgtggt tctgctgggc cttgggttttg gctacttgga tccgctgggc cccacagacc
60
agcccggcag tacctgctgt gccccggctc aagcggggtg gagaacacgg agctcgtcaa
120
gtcaccagtg gagtacctga tgatgctgat gccaccagc caggaggagg agaaagacaa
180
gcctgtggcc cccagcaacg tcctgtcgat ggcccagctg cgcacgctgc ccctggccga
240
tcagatcaag atcctgatga agaattgtga ggtcatgcct ttgccaact tgatgagcct
300
cctgggcccc tccatcgatt ccgtggctgt tctgcggggc atccagaagg tggcgatgtt
360
ggtccaaggg aactgggtgg tgaagagtga catcctatac cccaaggact cgtccagccc
420
tcacagcggc gtgcctgctg aggtgctctg cagggggccga gacttcgtta tgtggaagtt
480
cacgcagagc cgctgggtgg ttaggaaaga ggtggcaacc gtgaccaaac tctgcgccga
540
ggatgtgaag gacttcctgg agcacatggc cgtggtgagg atcaacaaag gctgggagtt
600
cattctgcct tatgatgggg agttcatcaa gaagcaccgc gatgtggtcc agcggcagca
660
catgctgtgg acgggtatcc aggccaaact ggaaaaagtc tataatcttg taaaggaaac
720
catgccaaag aagccggatg cacaatcagg gcctgccggg ctggtctgtg gggaccagcg
780
gatccaagta gccaaaacca aggccagca gaaccacgcg ttgctggagc gggagctgca
840
gcggcggaag gagcagctgc gggcgcctgc ggtcccgcgc ggtgtgcgga tcaaggagga
900
gcccgtgagc gaggaggcg aggaggacga ggagcaggag gcggaggagg agcccatgga
960
cacttcccc agcggcctcc acagcaagct ggccaacggg ctgcctctcg ggcgggctgc
1020
gggcacagac agcttcaacg ggcaccgcgc ccagggctgc gccagcacc ctgtggctcg
1080
ggaactgaag gccttcgtgg aggccacct tcagagacag ttgtgtctca cgctgagcga
1140
actcaagcgc ctcttcaatc tgcacttggc cagcctgccc cccggccaca cactcttcag
1200
cgcatctcg gaccgatgc tacaggacac ggtgctggcc gccggttgca agcagatact
1260
ggtgcctttt cccccccaga ctgtgcttc cccgatgag cagaagggtg ttgccctctg
1320
ggagtctgga gacatgagtg atcagcatcg acaggttttg cttgaaattt tttccaaaaa
1380
ttaccgggta cgcgaaaca tgatccagtc tcggttgact caagagtgtg gagaagatct
1440
cagtaaacag gaggtggata aagtactaaa ggactgctgt gtaagctatg gtggcatgtg
1500
gtaccttaaa gggacagtac agtcttgaca atagtagcaa actactaacc cagcaaactt
1560
aagcccaagg aagaagggcg gaaccagaag tagggcctcg acttgcttca gacgacacag
1620

agcaagagga actgaccatc tcatgacctg tggcattgca cgggtgcagtg gacagaaggg
 1680
 attatcctca gccagtcgca gggtcagctt aagttagtta gatcactccc agaagagacc
 1740
 agctgggacc ttctttgcag tacaatttga aattcctgat gtattttgct tattatttgg
 1800
 tttcattctc ataataaaga gagtgtatac ttacatgggc aggatgataa aaatcatggg
 1860
 ttaatatctt cttttgtaaa cttaatgcc acaaggtcta agttatgttt acaacatgaa
 1920
 gaaaacctca aagttcttaa tttttaaaat gcctagaaga caatatttag tcttggatta
 1980
 tctatctgct aagacctcca ccaatttcat taaaccaa tgaattattc tattcttggg
 2040
 attctgtggc cacttcacct ttgacaacaa cctactttat gtagcagtct caactgttta
 2100
 catgaacct agcaaaaaaa tcagaatcaa atccatctcc ttttaatgtt tgcagaaga
 2160
 tgcaaacaaa accaggtaag tatggaacaa tgtgtaagt aggttatcac actttgatgt
 2220
 aaaaatttct attttgtgta tttttaaaat aaatgcaaac actaaactaa aaaaaaaaaa
 2280
 aaaaaaaaaa aaaaaaaaaa aa
 2302

<210> 3846

<211> 197

<212> PRT

<213> Homo sapiens

<400> 3846

Ser	Cys	Lys	Gly	Asn	His	Ala	Lys	Glu	Ala	Gly	Cys	Thr	Ile	Arg	Ala
1				5				10						15	
Cys	Arg	Ala	Gly	Leu	Trp	Gly	Pro	Ala	Asp	Pro	Ser	Ser	Gln	Asn	Gln
			20					25					30		
Gly	Pro	Ala	Glu	Pro	Arg	Val	Ala	Gly	Ala	Gly	Ala	Ala	Ala	Ala	Glu
			35				40					45			
Gly	Ala	Ala	Ala	Gly	Ala	Cys	Gly	Pro	Ala	Arg	Cys	Ala	Asp	Gln	Gly
			50			55				60					
Gly	Ala	Arg	Glu	Arg	Gly	Gly	Arg	Gly	Gly	Arg	Gly	Ala	Gly	Gly	Gly
65					70					75				80	
Gly	Gly	Ala	His	Gly	His	Phe	Pro	Gln	Arg	Pro	Pro	Gln	Gln	Ala	Gly
			85					90					95		
Gln	Arg	Ala	Ala	Ser	Arg	Ala	Gly	Cys	Gly	His	Arg	Gln	Leu	Gln	Arg
			100					105					110		
Ala	Pro	Ala	Pro	Gly	Leu	Arg	Gln	His	Pro	Cys	Gly	Ser	Gly	Thr	Glu
			115				120					125			
Gly	Leu	Arg	Gly	Gly	His	Leu	Ser	Glu	Thr	Val	Cys	Ala	His	Ala	Glu
			130			135				140					
Arg	Thr	Gln	Ala	Pro	Leu	Gln	Ser	Ala	Leu	Gly	Gln	Pro	Ala	Pro	Arg
145					150					155				160	
Pro	His	Thr	Leu	Gln	Arg	His	Leu	Gly	Pro	His	Ala	Thr	Gly	His	Gly
			165					170					175		
Ala	Gly	Arg	Arg	Leu	Gln	Ala	Asp	Thr	Gly	Ala	Phe	Ser	Pro	Pro	Asp

180
Cys Cys Phe Pro Gly
195

185

190

<210> 3847
<211> 1570
<212> DNA
<213> Homo sapiens

<400> 3847
nnccatggtg ggcttgaggg tggggctgtc ctagagcatt aaacagctgt tgggccctgg
60
gctgaccccc ccacctgca tgtgtggggg tccccacagc tcttatgttc ctccctgggccc
120
ttctggaatt cctcctcctt aggcaagcct atcacagcat cctgaccctg ggggcctctg
180
tgcagctggt gtttggtctt gaggtaaaac tggcttggga ggttgagagg acaagcccgga
240
ggtgacccca catgtgcctt gaataaccca acagaccctt cctcagcacc tgctatgtgg
300
ccaacctgtg ctggccacca aggggcagtg atcagatatg gctcctgccc tccacacgct
360
cactcctagg tgactgggga gacgcacaaa gaggctagga cagaggagga gccccaacct
420
ggggctcagg agaggggtcc tggaggctcg tgccggagct agctggtaat ggacaggaga
480
ggattagttc catggacaac tggaggcgtg tccctggcag agagagaatg tgttcagtga
540
cgacagctca tatttgttga gtgcgaattt cacaccaggc cctatgtctga gctcctgacc
600
tgcattctctt attcagcaag acaatactgt tataaaggaa cagttaatta tgtcatttta
660
tagataagta aactgaggtt cactgagttg ccaaaagtca cagctagtaa gtggagggggc
720
taggaggacc ctgggtgtgt ctagagcctg tgattgtacc actgcacctg ctgtgcagag
780
gccttgggga gcaatgtggg tgcagcaagg gggagctatg tgtttacatc ccctcgtcc
840
ccctctccct tcagtatgcc atcctgatga cgatggtgct caccatcttc atcaagtatg
900
tgctgcactc cgtggacctc cagagtgaga acccctggga caacaaggct gtgtacatgc
960
tctacacaga gctgtttaca ggtgagaggg gcctgggcct ctctgatct ggaccagcat
1020
cctccactct gcctcctggc cctgtgacct gctgctttct gcatccctc ccctcaggct
1080
tcatcaagggt tctgctgtac atggccttca tgaccatcat gatcaagggt cacaccttcc
1140
cactctttgc catccggccc atgtacctgg ccatgaggtg agcccgggcc tgtccccga
1200
tcctcctgac ctgatccctg ccctctcctt gctttcactg actgtccttt cagacagttc
1260
aagaaagctg tgacagatgc catcatgtct cgccgagcca tccgcaacat gaacaccctg
1320

tatccagatg ccacccacaga ggagctccag gcaatggaca atgtctgcat catctgccga
 1380
 gaagagatgg tgactggtgc caagagactg ccctgcaacc acattttcca taccagggtg
 1440
 gaggggccct ggggagcctg cccagcaggg cccaggcccc agaaggcagg ccctaaggga
 1500
 cctgctgacc tctgctggc cttgaccgc agctgctgc gctcctggtt ccagcggcag
 1560
 cagacctgcc
 1570

<210> 3848

<211> 120

<212> PRT

<213> Homo sapiens

<400> 3848

Pro	Asp	Pro	Val	Pro	Ser	Pro	Ala	Phe	Thr	Asp	Cys	Pro	Phe	Arg	Gln
1				5					10					15	
Phe	Lys	Lys	Ala	Val	Thr	Asp	Ala	Ile	Met	Ser	Arg	Arg	Ala	Ile	Arg
			20					25					30		
Asn	Met	Asn	Thr	Leu	Tyr	Pro	Asp	Ala	Thr	Pro	Glu	Glu	Leu	Gln	Ala
		35					40					45			
Met	Asp	Asn	Val	Cys	Ile	Ile	Cys	Arg	Glu	Glu	Met	Val	Thr	Gly	Ala
	50					55					60				
Lys	Arg	Leu	Pro	Cys	Asn	His	Ile	Phe	His	Thr	Arg	Trp	Glu	Gly	Pro
65					70				75					80	
Trp	Gly	Ala	Cys	Pro	Ala	Gly	Pro	Arg	Pro	Gln	Lys	Ala	Gly	Pro	Lys
			85					90					95		
Gly	Pro	Ala	Asp	Leu	Cys	Leu	Ala	Leu	Thr	Arg	Ser	Cys	Leu	Arg	Ser
			100				105						110		
Trp	Phe	Gln	Arg	Gln	Gln	Thr	Cys								
			115				120								

<210> 3849

<211> 1139

<212> DNA

<213> Homo sapiens

<400> 3849

cctgccgagg gccaggaatg agattaagga cggaacgcat gccctccaaa aagtggcatt
 60
 ttagaattta tacagcacc cagcacgctg ctaaactgtg gcacacaacc accacggccc
 120
 gatcacgcgc agcgggaacc cggctctctga gtccgccccg tgcgttgctg catcagagtc
 180
 acgccaccta atccattctc tcggtcttcg tctgctcggg tattgcaact gcctcgattg
 240
 gtcgactctg ggccagcatg gcggcgcccc tgtaaccggg tccgtgcgc aaagcgaacg
 300
 gcggccgcgg cgcgggcccc gcgggggtta gaggtcacca tgctgagggt cgcgtggagg
 360
 acgctgagtt tgattcggac ccgggcagtt acccaggtcc tagtaccggg gctgccgggg
 420

ggtgggagcg ccaagtttcc tttcaaccag tggggcctgc agcctcgaag tctcctcctc
 480
 caggccgcgc gcggatatgt cgtccggaaa ccagcccagt ctaggctgga tgatgaccca
 540
 cctccttcta cgctgctcaa agactaccag aatgtccctg gaattgagaa ggttgatgat
 600
 gtcgtgaaaa gactcttgct tttggaaatg gccacaaga aggagatgct aaaaatcaag
 660
 caagaacagt ttatgaagaa gattgttgca aaccagagg acaccagatc cctggaggct
 720
 cgaattattg ccttgtctgt caagatccgc agttatgaag aacacttgga gaaacatcga
 780
 aaggacaaag cccacaaacg ctatctgcta atgagcattg accagaggaa aaagatgctc
 840
 aaaaacctcc gtaacaccaa ctatgatgct tttgagaaga tatgctgggg gctgggaatt
 900
 gagtacacct tccccctct gtattaccga agagcccacc gccgattcgt gaccaagaag
 960
 gctctgtgca ttcggtttt ccaggagact caaaagctga agaagcgaag aagagcctta
 1020
 aaggctgcag cagcagccca aaaacaagca aagcggagga acccagacag ccctgccaaa
 1080
 gccataccaa agacactcaa agacagccaa taaattctgt tcaatcattt aaaaaaaaaa
 1139

<210> 3850

<211> 257

<212> PRT

<213> Homo sapiens

<400> 3850

Met	Leu	Arg	Val	Ala	Trp	Arg	Thr	Leu	Ser	Leu	Ile	Arg	Thr	Arg	Ala
1				5				10						15	
Val	Thr	Gln	Val	Leu	Val	Pro	Gly	Leu	Pro	Gly	Gly	Gly	Ser	Ala	Lys
		20						25					30		
Phe	Pro	Phe	Asn	Gln	Trp	Gly	Leu	Gln	Pro	Arg	Ser	Leu	Leu	Leu	Gln
		35					40					45			
Ala	Ala	Arg	Gly	Tyr	Val	Val	Arg	Lys	Pro	Ala	Gln	Ser	Arg	Leu	Asp
	50					55					60				
Asp	Asp	Pro	Pro	Pro	Ser	Thr	Leu	Leu	Lys	Asp	Tyr	Gln	Asn	Val	Pro
65					70					75				80	
Gly	Ile	Glu	Lys	Val	Asp	Asp	Val	Val	Lys	Arg	Leu	Leu	Ser	Leu	Glu
			85						90				95		
Met	Ala	Asn	Lys	Lys	Glu	Met	Leu	Lys	Ile	Lys	Gln	Glu	Gln	Phe	Met
		100						105					110		
Lys	Lys	Ile	Val	Ala	Asn	Pro	Glu	Asp	Thr	Arg	Ser	Leu	Glu	Ala	Arg
		115					120					125			
Ile	Ile	Ala	Leu	Ser	Val	Lys	Ile	Arg	Ser	Tyr	Glu	Glu	His	Leu	Glu
	130					135					140				
Lys	His	Arg	Lys	Asp	Lys	Ala	His	Lys	Arg	Tyr	Leu	Leu	Met	Ser	Ile
145					150					155				160	
Asp	Gln	Arg	Lys	Lys	Met	Leu	Lys	Asn	Leu	Arg	Asn	Thr	Asn	Tyr	Asp
			165					170					175		
Val	Phe	Glu	Lys	Ile	Cys	Trp	Gly	Leu	Gly	Ile	Glu	Tyr	Thr	Phe	Pro

180										185				190			
Pro	Leu	Tyr	Tyr	Arg	Arg	Ala	His	Arg	Arg	Phe	Val	Thr	Lys	Lys	Ala		
195							200				205						
Leu	Cys	Ile	Arg	Val	Phe	Gln	Glu	Thr	Gln	Lys	Leu	Lys	Lys	Arg	Arg		
210						215				220							
Arg	Ala	Leu	Lys	Ala	Ala	Ala	Ala	Gln	Lys	Gln	Ala	Lys	Arg	Arg			
225					230				235				240				
Asn	Pro	Asp	Ser	Pro	Ala	Lys	Ala	Ile	Pro	Lys	Thr	Leu	Lys	Asp	Ser		
245					250				255								
Gln																	

```
<210> 3851
<211> 1183
<212> DNA
<213> Homo sapiens
```

<400>	3851				
nnacgcgctt	tggcctgagt	tggggagggg	ggcggggagg	gacctgcggc	ttgcggcccc
60					
gcccccttct	cgggtctgca	gccgaccggt	aagcccgccct	cctcccacgg	ccggccctgg
120					
ggcgtgtcc	gccgggcaac	tccagccgag	gcctgggctt	ctgcctgcag	gtgtctgcgg
180					
cgaggcccct	agggtagacg	ccgatttggc	cccatgggtg	gtttcggggc	caaccggcgg
240					
gctggccgcc	tgccctctct	cgtgctggtg	gtgctgctgg	tggtgatcgt	cgctctcgcc
300					
ttcaactact	ggagcatctc	ctcccgccac	gtcctgcttc	aggaggaggt	ggccgagctg
360					
cagggccagg	tccagcgcac	cgaagtggcc	cgcgggcggc	tggaaaagcg	caattcggac
420					
ctcttgctgt	tgggtggacac	gcacaagaaa	cagatcgacc	agaaggaggc	cgactacggc
480					
cgctcagca	gccggctgca	ggccagagag	ggcctcgggg	agagatgcga	ggatgacaag
540					
gttaaactac	agaacaacat	atcgatatcag	atggcagaca	tacatcattt	aaaggagcaa
600					
cttgctgagc	ttcgtcagga	atttcttcga	caagaagacc	agcttcagga	ctataggaag
660					
aacaatactt	accttgtgaa	gagggttagaa	tatgaaagtt	ttcagtgtgg	acagcagatg
720					
aaggaattga	gagcacagca	tgaagaaaat	attaaaaagt	tagcagacca	gttttttagag
780					
gaacaaaagc	aagagaccca	aaagattcaa	tcaaattgatg	gaaaggaatt	ggatataaac
840					
aatcaagtag	tacctaaaaa	tattccaaaa	gtagctgaga	atggtgcaga	taagaatgaa
900					
gaaccctcaa	gcaatcatat	tccacatggg	aaagaacaaa	tcaaaagagg	tggtgatgca
960					
gggatgcctg	gaatagaaga	gaatgacctt	gcaaaagttg	atgatcttcc	ccctgcttta
1020					
aggaagcctc	ctatttcagt	ttctcaacat	gaaagtcatc	aagcaatctc	ccatctttcca
1080					

actggacaac ctctctcccc aaatatgcct ccagattcac acataaacca caatggaaac
 1140
 cccggtactt caaaacagaa tccttccagt ccccttcacg cgt
 1183

<210> 3852

<211> 323

<212> PRT

<213> Homo sapiens

<400> 3852

Met	Val	Gly	Phe	Gly	Ala	Asn	Arg	Arg	Ala	Gly	Arg	Leu	Pro	Ser	Leu	1	5	10	15
Val	Leu	Val	Val	Leu	Leu	Val	Val	Ile	Val	Val	Leu	Ala	Phe	Asn	Tyr	20	25	30	
Trp	Ser	Ile	Ser	Ser	Arg	His	Val	Leu	Leu	Gln	Glu	Glu	Val	Ala	Glu	35	40	45	
Leu	Gln	Gly	Gln	Val	Gln	Arg	Thr	Glu	Val	Ala	Arg	Gly	Arg	Leu	Glu	50	55	60	
Lys	Arg	Asn	Ser	Asp	Leu	Leu	Leu	Val	Asp	Thr	His	Lys	Lys	Gln		65	70	75	80
Ile	Asp	Gln	Lys	Glu	Ala	Asp	Tyr	Gly	Arg	Leu	Ser	Ser	Arg	Leu	Gln	85	90	95	
Ala	Arg	Glu	Gly	Leu	Gly	Lys	Arg	Cys	Glu	Asp	Asp	Lys	Val	Lys	Leu	100	105	110	
Gln	Asn	Asn	Ile	Ser	Tyr	Gln	Met	Ala	Asp	Ile	His	His	Leu	Lys	Glu	115	120	125	
Gln	Leu	Ala	Glu	Leu	Arg	Gln	Glu	Phe	Leu	Arg	Gln	Glu	Asp	Gln	Leu	130	135	140	
Gln	Asp	Tyr	Arg	Lys	Asn	Asn	Thr	Tyr	Leu	Val	Lys	Arg	Leu	Glu	Tyr	145	150	155	160
Glu	Ser	Phe	Gln	Cys	Gly	Gln	Gln	Met	Lys	Glu	Leu	Arg	Ala	Gln	His	165	170	175	
Glu	Glu	Asn	Ile	Lys	Lys	Leu	Ala	Asp	Gln	Phe	Leu	Glu	Glu	Gln	Lys	180	185	190	
Gln	Glu	Thr	Gln	Lys	Ile	Gln	Ser	Asn	Asp	Gly	Lys	Glu	Leu	Asp	Ile	195	200	205	
Asn	Asn	Gln	Val	Val	Pro	Lys	Asn	Ile	Pro	Lys	Val	Ala	Glu	Asn	Val	210	215	220	
Ala	Asp	Lys	Asn	Glu	Glu	Pro	Ser	Ser	Asn	His	Ile	Pro	His	Gly	Lys	225	230	235	240
Glu	Gln	Ile	Lys	Arg	Gly	Gly	Asp	Ala	Gly	Met	Pro	Gly	Ile	Glu	Glu	245	250	255	
Asn	Asp	Leu	Ala	Lys	Val	Asp	Asp	Leu	Pro	Pro	Ala	Leu	Arg	Lys	Pro	260	265	270	
Pro	Ile	Ser	Val	Ser	Gln	His	Glu	Ser	His	Gln	Ala	Ile	Ser	His	Leu	275	280	285	
Pro	Thr	Gly	Gln	Pro	Leu	Ser	Pro	Asn	Met	Pro	Pro	Asp	Ser	His	Ile	290	295	300	
Asn	His	Asn	Gly	Asn	Pro	Gly	Thr	Ser	Lys	Gln	Asn	Pro	Ser	Ser	Pro	305	310	315	320
Leu	His	Ala																	

<210> 3853
 <211> 375
 <212> DNA
 <213> Homo sapiens

<400> 3853
 cgtacgcata tggccgatga aaataaaaat gaatatgctg cacaattaca aaactttaat
 60
 ggagaacaac ataaacattt ttatgtagt attcctcaga ttacaagca actacaagaa
 120
 atggacgaac gaaggactat taaactcagt gagtgttaca gaggatttgc tgactcagaa
 180
 cgcaaagtta ttcccatcat ttcaaaatgt ttggaaggaa tgattcttgc agcaaaatca
 240
 gttgatgaaa gaagagactc tcaaatggtg gtagactcct tcaaatctgg ttttgaacct
 300
 ccaggagact ttccatttga agattacagt caacatatat atagaaccat ttctgatggg
 360
 actatcagt catcc
 375

<210> 3854
 <211> 125
 <212> PRT
 <213> Homo sapiens

<400> 3854
 Arg Thr His Met Ala Asp Glu Asn Lys Asn Glu Tyr Ala Ala Gln Leu
 1 5 10 15
 Gln Asn Phe Asn Gly Glu Gln His Lys His Phe Tyr Val Val Ile Pro
 20 25 30
 Gln Ile Tyr Lys Gln Leu Gln Glu Met Asp Glu Arg Arg Thr Ile Lys
 35 40 45
 Leu Ser Glu Cys Tyr Arg Gly Phe Ala Asp Ser Glu Arg Lys Val Ile
 50 55 60
 Pro Ile Ile Ser Lys Cys Leu Glu Gly Met Ile Leu Ala Ala Lys Ser
 65 70 75 80
 Val Asp Glu Arg Arg Asp Ser Gln Met Val Val Asp Ser Phe Lys Ser
 85 90 95
 Gly Phe Glu Pro Pro Gly Asp Phe Pro Phe Glu Asp Tyr Ser Gln His
 100 105 110
 Ile Tyr Arg Thr Ile Ser Asp Gly Thr Ile Ser Ala Ser
 115 120 125

<210> 3855
 <211> 1377
 <212> DNA
 <213> Homo sapiens

<400> 3855
 naagctgcga ccatggcaac ctacaaccag ctctcctatg cccagaaggc caagtaccac
 60
 ctgtgctcag caggctggct ggagaccggg cgggttgctt accccacagc cttcgctcc
 120

cagaactgtg gctctggtgt gggtgggata gtggactatg gacctagacc caacaagagt
 180
 gaaatgtggg atgtcttctg ctatcggatg aaagatgtga actgcacctg caaggtgggg
 240
 tatgtgggag atggcttctc atgcagtggg aacctgctgc aggtcctgat gtccttcccc
 300
 tcactcaciaa acttcttgac ggaagtgtg gcctattcca acagctcagc tcgaggccgt
 360
 gcatttctag aacacctgac tgacctgtcc atccgaggca cctctttgt gccacagaac
 420
 agtgggctgg gggagaatga gaccttgtct gggcgggaca tcgagcacca cctcgccaat
 480
 gtcagcatgt ttttctacaa tgacctgtc aatggcacn accctgcaaa cgaggggtggg
 540
 aagcaagctg ctcatcactg ccagccagga cccactnncc aaccgacgga gaccaggttt
 600
 gttgatggaa gagccattct gcagtgggac atctttgcct ccaatgggat cattcatgtc
 660
 atttccaggc ctttaaaagc acccctgcc cccgtgacct tgaccacac tggcttggga
 720
 gcagggatct tctttgccat catcctggtg actggggctg ttgccttggc tgcttactcc
 780
 tactttcgga taaaccggag aacaatcggc ttccagcatt ttgagtcgga agaggacatt
 840
 aatgttcag ctcttggcaa gcagcagcct gagaatatct cgaaccctt gtatgagagc
 900
 acaacctcag ctccccaga accttctac gacccttca cggactctga agaacggcag
 960
 cttgagggca atgaccctt gaggacactg tgagggcctg gacgggagat gccagccatc
 1020
 actcactgcc acctgggcca tcaactgtga attctcagca ccagttgcct tttaggaacg
 1080
 taaagtctt taagcactca gaagccatac ctcatctctc tggctgatct gggggttgtt
 1140
 tctgtgggtg agagatgtgt tgctgtgcc acccagtaca gcttctctc ctgacccttt
 1200
 ggctcttctt cctttgtact cttcagctgg cacctgtcc attctgccct acatgatggg
 1260
 taactgtgat ctttcttccc tgtagattg taagcctccg tctttgtatc ccagccctta
 1320
 gccagtgcc tgacacagga actgtgcaca ataaagggtt atggaacaga aacaaaa
 1377

<210> 3856

<211> 330

<212> PRT

<213> Homo sapiens

<400> 3856

Xaa	Ala	Ala	Thr	Met	Ala	Thr	Tyr	Asn	Gln	Leu	Ser	Tyr	Ala	Gln	Lys
1				5				10					15		
Ala	Lys	Tyr	His	Leu	Cys	Ser	Ala	Gly	Trp	Leu	Glu	Thr	Gly	Arg	Val
			20					25					30		
Ala	Tyr	Pro	Thr	Ala	Phe	Ala	Ser	Gln	Asn	Cys	Gly	Ser	Gly	Val	Val

```

      35      40      45
Gly Ile Val Asp Tyr Gly Pro Arg Pro Asn Lys Ser Glu Met Trp Asp
  50      55      60
Val Phe Cys Tyr Arg Met Lys Asp Val Asn Cys Thr Cys Lys Val Gly
  65      70      75      80
Tyr Val Gly Asp Gly Phe Ser Cys Ser Gly Asn Leu Leu Gln Val Leu
      85      90      95
Met Ser Phe Pro Ser Leu Thr Asn Phe Leu Thr Glu Val Leu Ala Tyr
      100      105      110
Ser Asn Ser Ser Ala Arg Gly Arg Ala Phe Leu Glu His Leu Thr Asp
      115      120      125
Leu Ser Ile Arg Gly Thr Leu Phe Val Pro Gln Asn Ser Gly Leu Gly
      130      135      140
Glu Asn Glu Thr Leu Ser Gly Arg Asp Ile Glu His His Leu Ala Asn
      145      150      155      160
Val Ser Met Phe Phe Tyr Asn Asp Leu Val Asn Gly Thr Xaa Pro Ala
      165      170      175
Asn Glu Gly Gly Lys Gln Ala Ala His His Cys Gln Pro Gly Pro Thr
      180      185      190
Xaa Gln Pro Thr Glu Thr Arg Phe Val Asp Gly Arg Ala Ile Leu Gln
      195      200      205
Trp Asp Ile Phe Ala Ser Asn Gly Ile Ile His Val Ile Ser Arg Pro
      210      215      220
Leu Lys Ala Pro Pro Ala Pro Val Thr Leu Thr His Thr Gly Leu Gly
      225      230      235      240
Ala Gly Ile Phe Phe Ala Ile Ile Leu Val Thr Gly Ala Val Ala Leu
      245      250      255
Ala Ala Tyr Ser Tyr Phe Arg Ile Asn Arg Arg Thr Ile Gly Phe Gln
      260      265      270
His Phe Glu Ser Glu Glu Asp Ile Asn Val Ala Ala Leu Gly Lys Gln
      275      280      285
Gln Pro Glu Asn Ile Ser Asn Pro Leu Tyr Glu Ser Thr Thr Ser Ala
      290      295      300
Pro Pro Glu Pro Ser Tyr Asp Pro Phe Thr Asp Ser Glu Glu Arg Gln
      305      310      315      320
Leu Glu Gly Asn Asp Pro Leu Arg Thr Leu
      325      330

```

<210> 3857

<211> 797

<212> DNA

<213> Homo sapiens

<400> 3857

```

nngcgcgccca ccacgagaac agcntccggg ggcgggtcgt gggcgtgggc gacgagagcc
  60
gcgccctgcc cgacgtcatg cagggcatgg tgctcagctc catgcagcac ttacgcgagg
  120
ccttcacca ggtcctgggc gagaagcata agcgcggcca cctggccgag gccgagggcc
  180
acagggacac ttgcgacgaa gactcggtgg ccggcgagtc ggaccgcata gacgatggca
  240
ctgttaatgg ccgcggctgc tccccgggcg agtcggcctc ggggggcctg tccaaaaagc
  300

```

tgctgctggg cagccccagc tcgctgagcc ccttctctaa gcgcatcaag ctcgagaagg
 360
 agttcgacct gcccccgcc gcgatgccca acacggagaa cgtgtactcg cagtggctcg
 420
 ccggctacgc ggcctccagg cagctcaaag atcccttcct tagcttcgga gactccagac
 480
 aatcgccctt tgctctctcg tcggagcact cctcggagaa cgggagcttg cgcttctcca
 540
 caccgcccgg ggagctggac ggagggatct cggggcgag cggcacggga agtggaggga
 600
 gcacgccccca tattagtggg ccggggcccg gcaggcccag ctcaaaagag ggcagacgca
 660
 gcgacacttg ttcttcacac acccccatte ggcgtagtac ccagagagct caagatgtgt
 720
 ggagttttc ggatggaagc tcgagagccc ttaagttctg agaaaatttg aagcccccg
 780
 ggggtgggtg gacgcgt
 797

<210> 3858

<211> 76

<212> PRT

<213> Homo sapiens

<400> 3858

Xaa	Arg	Ala	Thr	Thr	Arg	Thr	Ala	Ser	Gly	Ala	Arg	Ser	Trp	Ala	Trp
1				5					10					15	
Ala	Thr	Arg	Ala	Ala	Pro	Cys	Pro	Thr	Ser	Cys	Arg	Ala	Trp	Cys	Ser
			20					25					30		
Ala	Pro	Cys	Ser	Thr	Ser	Ala	Arg	Pro	Ser	Thr	Arg	Ser	Trp	Ala	Arg
		35					40				45				
Ser	Ile	Ser	Ala	Ala	Thr	Trp	Pro	Arg	Pro	Arg	Ala	Thr	Gly	Thr	Leu
	50					55				60					
Ala	Thr	Lys	Thr	Arg	Trp	Pro	Ala	Ser	Arg	Thr	Ala				
65					70					75					

<210> 3859

<211> 1449

<212> DNA

<213> Homo sapiens

<400> 3859

tacaagaata aaaagcaagt ggggaagtat ttctggcctc ggattacaaa ggttcacttc
 60
 aaggagactc aatttgaact cagagtactg ggaaaagatt gtaacgaaac ctcatctctt
 120
 tttgaagctc ggagtaaaac tgcttgcaag cacctctgga agtgcagtgt ggaacatcat
 180
 acatttttta gaatgccaga aaatgaatcc aattcactgt caagaaaact cagcaagttt
 240
 ggatccatac gttataagca ccgctacagt ggcaggacag ctttgcaa at gagccgagat
 300
 ctttctattc agcttccccg gcctgatcag aatgtgacaa gaagtcgaag caagacttac
 360

cctaagcgaa tagcacaaac acagccagct gaatcaaaca ccatcagtag gataactgca
 420
 aacatggaaa atggagaaaa tgaaggaaca attaaaatta ttgcaccttc accagtaaaa
 480
 agctttaaga aagcaaagaa tgaaaatagc cctgataccc aaagaagcaa atctcatgca
 540
 ccgtgggaag aaaatggccc ccagagtggga ctctacaatt ctcccagtga tcgcactaag
 600
 tcgccaaaagt tcccttacac gcgtcgccga aacccctcct gtggaagtga caatgattct
 660
 gtacagcctg tgaggaggag gaaagcccat aacagtgggtg aagattcaga tcttaagcaa
 720
 aggaggaggt cacgttcacg ctgtaacacc agcagtggta gtgaatcaga aaattctaatt
 780
 agagaacacc ggaaaaagag aaacagaata cggcaggaga atgatatggt tgattcagcg
 840
 cctcagtggg aagctgtatt aaggagacaa aaggaaaaaa accaagccga cccaacaac
 900
 aggcgatcca gacacagatc tcgttcgaga agccccgata tccaagcaaa agaagagtta
 960
 tggaagcaca ttcaaaaaga acttgtggat ccatccggat tgtccgaaga acaattaaaa
 1020
 gagattccat aactaaaaat agagtgaagt cctttcagaa tcttctcacc aaagctttat
 1080
 tagtgcttga cacaaggtga cccaatccgc atcaggcatt ctcatctgcc acgaagttac
 1140
 cgccagtatc gcaggtccca gtgttcagat ggggagcgat cagttctctc ggaagtgaat
 1200
 tcaaaaacag atcttgtacc accacttccg gtgaccatt ctccggatgc tcagggttct
 1260
 ggggatgcta cagttcatca gagaagaaat ggggtctaaag atagcctgat ggaagaaaaa
 1320
 cctcagacat ctacaaacaa cctggctgga aaacacacag caaaaacaat aaaaactata
 1380
 caagcttccc gcctcaagac agagacttga tcttgatgaa gggtaaggg taggggtggg
 1440
 aaggttggtg
 1449

<210> 3860

<211> 348

<212> PRT

<213> Homo sapiens

<400> 3860

Tyr	Lys	Asn	Lys	Lys	Gln	Val	Gly	Lys	Tyr	Phe	Trp	Pro	Arg	Ile	Thr
1				5					10					15	
Lys	Val	His	Phe	Lys	Glu	Thr	Gln	Phe	Glu	Leu	Arg	Val	Leu	Gly	Lys
		20					25					30			
Asp	Cys	Asn	Glu	Thr	Ser	Phe	Phe	Phe	Glu	Ala	Arg	Ser	Lys	Thr	Ala
		35					40					45			
Cys	Lys	His	Leu	Trp	Lys	Cys	Ser	Val	Glu	His	His	Thr	Phe	Phe	Arg
	50					55					60				
Met	Pro	Glu	Asn	Glu	Ser	Asn	Ser	Leu	Ser	Arg	Lys	Leu	Ser	Lys	Phe

```

65          70          75          80
Gly Ser Ile Arg Tyr Lys His Arg Tyr Ser Gly Arg Thr Ala Leu Gln
      85          90          95
Met Ser Arg Asp Leu Ser Ile Gln Leu Pro Arg Pro Asp Gln Asn Val
      100        105        110
Thr Arg Ser Arg Ser Lys Thr Tyr Pro Lys Arg Ile Ala Gln Thr Gln
      115        120        125
Pro Ala Glu Ser Asn Thr Ile Ser Arg Ile Thr Ala Asn Met Glu Asn
      130        135        140
Gly Glu Asn Glu Gly Thr Ile Lys Ile Ile Ala Pro Ser Pro Val Lys
145          150          155          160
Ser Phe Lys Lys Ala Lys Asn Glu Asn Ser Pro Asp Thr Gln Arg Ser
      165        170        175
Lys Ser His Ala Pro Trp Glu Glu Asn Gly Pro Gln Ser Gly Leu Tyr
      180        185        190
Asn Ser Pro Ser Asp Arg Thr Lys Ser Pro Lys Phe Pro Tyr Thr Arg
      195        200        205
Arg Arg Asn Pro Ser Cys Gly Ser Asp Asn Asp Ser Val Gln Pro Val
      210        215        220
Arg Arg Arg Lys Ala His Asn Ser Gly Glu Asp Ser Asp Leu Lys Gln
225          230          235          240
Arg Arg Arg Ser Arg Ser Arg Cys Asn Thr Ser Ser Gly Ser Glu Ser
      245        250        255
Glu Asn Ser Asn Arg Glu His Arg Lys Lys Arg Asn Arg Ile Arg Gln
      260        265        270
Glu Asn Asp Met Val Asp Ser Ala Pro Gln Trp Glu Ala Val Leu Arg
      275        280        285
Arg Gln Lys Glu Lys Asn Gln Ala Asp Pro Asn Asn Arg Arg Ser Arg
      290        295        300
His Arg Ser Arg Ser Arg Ser Pro Asp Ile Gln Ala Lys Glu Glu Leu
305          310          315          320
Trp Lys His Ile Gln Lys Glu Leu Val Asp Pro Ser Gly Leu Ser Glu
      325        330        335
Glu Gln Leu Lys Glu Ile Pro Tyr Thr Lys Ile Glu
      340        345

```

<210> 3861

<211> 748

<212> DNA

<213> Homo sapiens

<400> 3861

```

nagattggag tccggccgcc ccccgacagc agccgcctcc tgccttcctc gctgctaggg
60
gccaccatgt cgggagacaa acttctgagc gaactcgggtt ataagctggg ccgcacaatt
120
ggagagggca gctactccaa ggtgaagggtg gccacatcca agaagtacaa gggtagcgtg
180
gccatcaagg tgggtggaccg gcggcgagcg ccccgaggact tcgtcaacaa gttcctgccc
240
cgagagctgt ccatactgcg gggcgtgcga caccgcaca tcgtgcacgt ctcgaggttc
300
atcgaggtgt gcaacgggaa actgtacatc gtgatggaag cggccgccac cgacctgctg
360

```

caagccgtgc agcgcaacgg gcgcatecccc ggagttcagg cgcgcgacct ctttgcgcag
 420
 atcgccggcg ccgtgcgcta cctgcacgat catcacctgg tgcaccgga cctcaagtgc
 480
 gaaaacgtgc tgctgagccc ggacgagcgc cgcgtcaagc tcaccgactt cggttcggc
 540
 cgccaggccc atggctaccc agacctgagc accacctact gcggctcagc cgtacgcgtc
 600
 acccgagtca tgcatttctt gagcacctac tgtctgccag gcccagagc tcatggcgaa
 660
 gagacttggg cccatccctg ccgaaaacga gacaattgaa aagtcaagta aaataaaaga
 720
 atgacatgga aataaaaaaaaa aaaaaaaaa
 748

<210> 3862

<211> 210

<212> PRT

<213> Homo sapiens

<400> 3862

Met	Ser	Gly	Asp	Lys	Leu	Leu	Ser	Glu	Leu	Gly	Tyr	Lys	Leu	Gly	Arg
1				5					10					15	
Thr	Ile	Gly	Glu	Gly	Ser	Tyr	Ser	Lys	Val	Lys	Val	Ala	Thr	Ser	Lys
			20					25					30		
Lys	Tyr	Lys	Gly	Thr	Val	Ala	Ile	Lys	Val	Val	Asp	Arg	Arg	Arg	Ala
		35					40				45				
Pro	Pro	Asp	Phe	Val	Asn	Lys	Phe	Leu	Pro	Arg	Glu	Leu	Ser	Ile	Leu
	50					55					60				
Arg	Gly	Val	Arg	His	Pro	His	Ile	Val	His	Val	Phe	Glu	Phe	Ile	Glu
65					70				75					80	
Val	Cys	Asn	Gly	Lys	Leu	Tyr	Ile	Val	Met	Glu	Ala	Ala	Ala	Thr	Asp
			85						90					95	
Leu	Leu	Gln	Ala	Val	Gln	Arg	Asn	Gly	Arg	Ile	Pro	Gly	Val	Gln	Ala
			100					105					110		
Arg	Asp	Leu	Phe	Ala	Gln	Ile	Ala	Gly	Ala	Val	Arg	Tyr	Leu	His	Asp
		115					120					125			
His	His	Leu	Val	His	Arg	Asp	Leu	Lys	Cys	Glu	Asn	Val	Leu	Leu	Ser
	130					135					140				
Pro	Asp	Glu	Arg	Arg	Val	Lys	Leu	Thr	Asp	Phe	Gly	Phe	Gly	Arg	Gln
145					150				155					160	
Ala	His	Gly	Tyr	Pro	Asp	Leu	Ser	Thr	Thr	Tyr	Cys	Gly	Ser	Ala	Val
			165					170					175		
Arg	Val	Thr	Arg	Val	Met	His	Phe	Leu	Ser	Thr	Tyr	Cys	Leu	Pro	Gly
		180						185					190		
Pro	Arg	Ala	His	Gly	Glu	Glu	Thr	Trp	Ala	His	Pro	Cys	Arg	Lys	Arg
		195					200					205			
Asp	Asn														
	210														

<210> 3863

<211> 341

<212> DNA

<213> Homo sapiens

<400> 3863
 acgcgtgaag ggggatccag atgctgataa cgaaggccca tcagcaggaa ctctcacag
 60
 ctcaactttga ggcttcttat tttctttaat cctgggggtac agctcccacc tggacacttc
 120
 agttttgctc tcagttggga ctctgggaaa aaaactgtgt ggctgatctc cagcagggttc
 180
 ttctgggtcga ggctccccga gaaccatctg gccatgggct ggcagccgag ttctcgcagt
 240
 gtccaggctg acggtacatt ccaggctagc catcctatca taatcgaatc tgagtagatt
 300
 tttatcaatc gcttgggaca agccattgaa ttttcggaga g
 341

<210> 3864
 <211> 108
 <212> PRT
 <213> Homo sapiens

<400> 3864
 Met Ala Cys Pro Lys Arg Leu Ile Lys Ile Tyr Ser Asp Ser Ile Met
 1 5 10 15
 Ile Gly Trp Leu Ala Trp Asn Val Pro Ser Ala Trp Thr Leu Arg Glu
 20 25 30
 Leu Gly Cys Gln Pro Met Ala Arg Trp Phe Ser Gly Ser Leu Asp Gln
 35 40 45
 Lys Asn Leu Val Glu Ile Ser His Thr Val Phe Phe Pro Glu Ser Gln
 50 55 60
 Leu Arg Ala Lys Leu Lys Cys Pro Gly Gly Ser Cys Thr Pro Gly Leu
 65 70 75 80
 Lys Lys Ile Gly Ser Leu Lys Val Ser Cys Glu Glu Phe Leu Leu Met
 85 90 95
 Gly Leu Arg Tyr Gln His Leu Asp Pro Pro Ser Arg
 100 105

<210> 3865
 <211> 492
 <212> DNA
 <213> Homo sapiens

<400> 3865
 nattgcaaaa caatatatga cacgtctttt accagccaca accttcaaca aaccaatatt
 60
 aatcaggaat tgacgataag cttactacat tttgaaatta tctgactttc ctcatgaaat
 120
 gagacctatg tgaagccac ttaattttct gaaacttcac atcatgtacc ttcattgtaa
 180
 tattctgaca cttgtttcat gcagccatac cagtcacaac tttaaatttt tagtcagact
 240
 ttgctcaciaa gggttcagga taattaatac aaatgggttg ggccagccat cacacagcag
 300
 tctcctattt acttcactac aactacagct ttcattcttc attacattac tttttctgag
 360

tagtctgggt caaatagtagt aaactgaata ttccttaacc aaaatgcttg gaagtaggcc
 420
 gggagcagcg gctcaccctt gtaatccag cattttggga ggccaaagca gacagatcac
 480
 tcaaggtcag ca
 492

<210> 3866
 <211> 109
 <212> PRT
 <213> Homo sapiens

<400> 3866
 Met Tyr Leu His Cys Asn Ile Leu Thr Leu Val Ser Cys Ser His Thr
 1 5 10 15
 Ser His Asn Phe Lys Phe Leu Val Arg Leu Cys Ser Gln Gly Phe Arg
 20 25 30
 Ile Ile Asn Thr Asn Gly Leu Gly Gln Pro Ser His Ser Ser Leu Leu
 35 40 45
 Phe Thr Ser Leu Gln Leu Gln Leu Ser Phe Phe Ile Thr Leu Leu Phe
 50 55 60
 Leu Ser Ser Leu Gly Gln Ile Val Gln Thr Glu Tyr Ser Leu Thr Lys
 65 70 75 80
 Met Leu Gly Ser Arg Pro Gly Ala Ala Ala His Pro Cys Asn Pro Ser
 85 90 95
 Ile Leu Gly Gly Gln Ser Arg Gln Ile Thr Gln Gly Gln
 100 105

<210> 3867
 <211> 1032
 <212> DNA
 <213> Homo sapiens

<400> 3867
 acgcgtgaag gggagctccg gaagaatctg gaggagctat tccaggtgaa gatggaacgg
 60
 gagcagcatc agactgagat cagggatctc caggaccagc tctcagaaat gcacgatgaa
 120
 ctggacagtg caaagcgatc ggaggacagg gagaaggagg ctctgattga ggagctctta
 180
 caggcaaaac aggatcttca agatctgctg attgccaaag aggagcaaga agacctcttg
 240
 agaaagcgag agcgtgaact caccgccctg aaggaggccc tgaaagaaga ggtttccagc
 300
 catgatcagg agatggacaa gctgaaggag caatatgatg ctgagttgca ggccttgagg
 360
 gagagtgtgg aagaagcaac caagaatgtc gaggtcttgg cgagcaggag caacacttca
 420
 gagcaagacc aggcggggac tgaaatgcgc gtgaagcttc tgcaggagga gaatgagaag
 480
 ctgcagggaa gaagcgaaga gctggagcgg agagttgctc agcttcaaag gcagatcgag
 540
 gacctgaaag gcgatgaagc caaggcgaag gaaacgctga agaagtacga gggagaaata
 600

cgacagttag aggaggccct tgtgcacgcc agaaaggaag aaaaagaagc tgtgtcagcc
 660
 agaagggccc tggagaatga actggaggct gctcaggga atctgagtca gactaccag
 720
 gagcagaagc agttgtctga gaagctcaaa gaggagagtg agcagaagga gcagctaaga
 780
 aggttgaaga acgagatgga gaatgagcgg tggcacctgg gcaaaacccat tgagaaactg
 840
 cagaaggaga tggcagacat tgttgaggcc tcccgtaacct caaccctgga gctccagaac
 900
 cagctggatg agtataagga gaaaaaccgc agggagctcg cagaaatgca aagacagttg
 960
 aaggagaaaa cgctggaggc agaaaagtcc cgactgacag ccatgaaaat gcaggatgag
 1020
 atgcgtctga tg
 1032

<210> 3868

<211> 344

<212> PRT

<213> Homo sapiens

<400> 3868

Thr	Arg	Glu	Gly	Glu	Leu	Arg	Lys	Asn	Leu	Glu	Glu	Leu	Phe	Gln	Val
1				5				10						15	
Lys	Met	Glu	Arg	Glu	Gln	His	Gln	Thr	Glu	Ile	Arg	Asp	Leu	Gln	Asp
			20					25					30		
Gln	Leu	Ser	Glu	Met	His	Asp	Glu	Leu	Asp	Ser	Ala	Lys	Arg	Ser	Glu
		35					40					45			
Asp	Arg	Glu	Lys	Gly	Ala	Leu	Ile	Glu	Glu	Leu	Leu	Gln	Ala	Lys	Gln
		50				55					60				
Asp	Leu	Gln	Asp	Leu	Leu	Ile	Ala	Lys	Glu	Glu	Gln	Glu	Asp	Leu	Leu
65				70					75					80	
Arg	Lys	Arg	Glu	Arg	Glu	Leu	Thr	Ala	Leu	Lys	Gly	Ala	Leu	Lys	Glu
			85					90						95	
Glu	Val	Ser	Ser	His	Asp	Gln	Glu	Met	Asp	Lys	Leu	Lys	Glu	Gln	Tyr
			100					105					110		
Asp	Ala	Glu	Leu	Gln	Ala	Leu	Arg	Glu	Ser	Val	Glu	Glu	Ala	Thr	Lys
		115					120					125			
Asn	Val	Glu	Val	Leu	Ala	Ser	Arg	Ser	Asn	Thr	Ser	Glu	Gln	Asp	Gln
		130				135					140				
Ala	Gly	Thr	Glu	Met	Arg	Val	Lys	Leu	Leu	Gln	Glu	Glu	Asn	Glu	Lys
145				150					155					160	
Leu	Gln	Gly	Arg	Ser	Glu	Glu	Leu	Glu	Arg	Arg	Val	Ala	Gln	Leu	Gln
			165					170						175	
Arg	Gln	Ile	Glu	Asp	Leu	Lys	Gly	Asp	Glu	Ala	Lys	Ala	Lys	Glu	Thr
		180						185						190	
Leu	Lys	Lys	Tyr	Glu	Gly	Glu	Ile	Arg	Gln	Leu	Glu	Glu	Ala	Leu	Val
		195					200					205			
His	Ala	Arg	Lys	Glu	Glu	Lys	Glu	Ala	Val	Ser	Ala	Arg	Arg	Ala	Leu
	210					215					220				
Glu	Asn	Glu	Leu	Glu	Ala	Ala	Gln	Gly	Asn	Leu	Ser	Gln	Thr	Thr	Gln
225				230						235				240	
Glu	Gln	Lys	Gln	Leu	Ser	Glu	Lys	Leu	Lys	Glu	Glu	Ser	Glu	Gln	Lys

```

                245                250                255
Glu Gln Leu Arg Arg Leu Lys Asn Glu Met Glu Asn Glu Arg Trp His
                260                265                270
Leu Gly Lys Thr Ile Glu Lys Leu Gln Lys Glu Met Ala Asp Ile Val
                275                280                285
Glu Ala Ser Arg Thr Ser Thr Leu Glu Leu Gln Asn Gln Leu Asp Glu
                290                295                300
Tyr Lys Glu Lys Asn Arg Arg Glu Leu Ala Glu Met Gln Arg Gln Leu
305                310                315                320
Lys Glu Lys Thr Leu Glu Ala Glu Lys Ser Arg Leu Thr Ala Met Lys
                325                330                335
Met Gln Asp Glu Met Arg Leu Met
                340

```

<210> 3869

<211> 1226

<212> DNA

<213> Homo sapiens

<400> 3869

```

tttttttttg ctttgggtat tttttttgtc ttcttttctt tttttaagat caatattcat
60
tcttcatttg ccctcgtaac gaaaatagat ttttaaagtc ctcaaata caaacatcat
120
tgatgcacac acattccaga aatgcagagg tatgctgctg ccacggggta ggggtgctgg
180
aggcggcctg gcctcatggc cgcagaccgt gcccagccc gggcctggca ggtagctggc
240
cactgataaa tgccactggg atcctaggag aagctgggga ccatgcgtga ggtactgaag
300
gggaccatgg tggatggcat cctgggcact ttgtagcttg tctgaggaa aggcctctgc
360
tgccatagaa aagctggaca catgtcacc tggggccctg acatcctaaa atgccccact
420
gactaccagt cactaggaga aaggtctccg gctatgccct tccagtgat gcttgcccca
480
gagtgactgg tcacaggtgg gggacaggtt tgctccagaa accgtaggcc tttcttgtct
540
ggccccctaa agaggaccca agatcaggaa aactccccag tttaaaaaaa tatctgtcca
600
tctgtatata aaatacctat tattagctgg agttgcacac atgcaggacc aggagagact
660
gcctgaggtt ctgcctggac cgaaggaggc ctgctcaca gcacctctgt gaggggactg
720
gtgctcctgg gaagtcactt ctcttggtga ccgagctgac acccctcca cttggaaagc
780
acagggactg agcaggcggg acctgtgctg gagggagacc ctctggtga ggaactatgc
840
gggccttctg ggccctcagca gctccagccc actcctggcc tggcaggcca cctgccacc
900
caccaccca tctgcctctg gccccagtg aagtcagaag aggcaggagc cccgcaggct
960
gtgagcctgg cgcaggtcgg ctgacagcga gcttctcatc tgcctggtgg tagagcggac
1020

```

gctctcggca gcctgcacgg cccgggtcag ggccttggtg agctcctcta ggtcgcccag
 1080
 gtcgagctgg atggagtgcc ggtgtctccg ggctgggtgg ggagaggctg tgggcggcca
 1140
 cttggcagct ggttgggctg aggtaggtcc tgcaggcgca tagtacacag cggcaggtgg
 1200
 ataaggcatg atgggaaccg aggaga
 1226

<210> 3870
 <211> 100
 <212> PRT
 <213> Homo sapiens

<400> 3870
 Met Ala Ala Glu Ala Phe Pro Ser Asp Lys Leu Gln Ser Ala Gln Asp
 1 5 10 15
 Ala Ile His His Gly Pro Leu Gln Tyr Leu Thr His Gly Pro Gln Leu
 20 25 30
 Leu Leu Gly Ser Gln Trp His Leu Ser Val Ala Ser Tyr Leu Pro Gly
 35 40 45
 Pro Gly Trp Gly Thr Val Cys Gly His Glu Ala Arg Pro Pro Pro Ala
 50 55 60
 Pro Leu Pro Arg Gly Ser Ser Ile Pro Leu His Phe Trp Asn Val Cys
 65 70 75 80
 Ala Ser Met Met Phe Val Tyr Leu Arg His Leu Lys Ile Tyr Phe Arg
 85 90 95
 Tyr Glu Gly Lys
 100

<210> 3871
 <211> 473
 <212> DNA
 <213> Homo sapiens

<400> 3871
 nggatcctta tggagtaact tctgtgggac atcctgcac cctccaagc ttgggtgaga
 60
 tgccctacat ttcccagtgc ttctcttgca cccctccatt ggagtaaaaa ccacagtttg
 120
 tgggatggtt gagttgacag ctctgaatcc cagaaacctt aattttggct tatcttttga
 180
 taggctgagg gaaaatacaa agatgatcct gttgatctcc gccttgatat tgaacgtcgt
 240
 aaaaaacata aggagagaga tcttaaacga ggtaaatcga gagaatcagt ggattccccga
 300
 gactccagtc actcaaggga aaggtcagct gaaaaaacag agaaaactca taaaggatca
 360
 aagaaacaga agaaagacct ctgagagccg agacaagctg ggagcgaaag gagattttcc
 420
 cacaggaaag tcttcttttt ccattactcg agaggcacag gtcaatgtcc gga
 473

<210> 3872

<211> 66
 <212> PRT
 <213> Homo sapiens

<400> 3872
 Ala Glu Gly Lys Tyr Lys Asp Asp Pro Val Asp Leu Arg Leu Asp Ile
 1 5 10 15
 Glu Arg Arg Lys Lys His Lys Glu Arg Asp Leu Lys Arg Gly Lys Ser
 20 25 30
 Arg Glu Ser Val Asp Ser Arg Asp Ser Ser His Ser Arg Glu Arg Ser
 35 40 45
 Ala Glu Lys Thr Glu Lys Thr His Lys Gly Ser Lys Lys Gln Lys Lys
 50 55 60
 Asp Leu
 65

<210> 3873
 <211> 869
 <212> DNA
 <213> Homo sapiens

<400> 3873
 gacattgctg cagaacggag cgtccaccga gatccagaac agactgaagg agatcccctc
 60
 aagtgtgcat taaactcaaa gattctgtct gtaatggaag cctatcacct gtccttcgag
 120
 aggaggcaga agtcgtccga ggcccctgtg cagtccccgc agcgctccgt ggactccatc
 180
 agccaagagt cctccacttc cagcttctcc tccatgtcag ccggctcaag gcaggaggag
 240
 accaagaagg actacagaga ggtagaaaaa cttttgagag cagttgctga tggagatcta
 300
 gaaatggtgc gttacctgtt ggaatggaca gaggaggacc tggaggatgc ggaggacact
 360
 gtcagtgcag cggacccga attctgtcac ccgttggtgc agtgcccaa gtgtgcccc
 420
 gtcagaaga ggctggcgaa ggttcctgcc agtgggcttg gtgtgaacgt gaccagccag
 480
 gacggctcct ccccgctgca tgtcgccgcc ctgcacggcc gggcggacct catccgcctc
 540
 ctgctgaagc acggggccaa cgcagggtgc aggaacgcag accaagccgt cccgctccac
 600
 ctggcctgcc agcagggccca ctttcagggtg gtgaagtgtc tgtagattc gaatgcaaaa
 660
 cccaataaga aggacctcag tggaaacacg cccctcattt acgcctgctc cgggtggccat
 720
 cacgagcttg tggcactgct gctacagcac ggggcctcca ttaacgctct aacaataagg
 780
 ggcaacacag cgctgcacga ggctgtgatt gaaaagcacg tcttcgtggt agagctgctt
 840
 ctgctccacg gagcgtcagt taggtgctg
 869

<210> 3874

<211> 289
 <212> PRT
 <213> Homo sapiens

<400> 3874
 Asp Ile Ala Ala Glu Arg Ser Val His Arg Asp Pro Glu Gln Thr Glu
 1 5 10 15
 Gly Asp Pro Leu Lys Cys Ala Leu Asn Ser Lys Ile Leu Ser Val Met
 20 25 30
 Glu Ala Tyr His Leu Ser Phe Glu Arg Arg Gln Lys Ser Ser Glu Ala
 35 40 45
 Pro Val Gln Ser Pro Gln Arg Ser Val Asp Ser Ile Ser Gln Glu Ser
 50 55 60
 Ser Thr Ser Ser Phe Ser Ser Met Ser Ala Gly Ser Arg Gln Glu Glu
 65 70 75 80
 Thr Lys Lys Asp Tyr Arg Glu Val Glu Lys Leu Leu Arg Ala Val Ala
 85 90 95
 Asp Gly Asp Leu Glu Met Val Arg Tyr Leu Leu Glu Trp Thr Glu Glu
 100 105 110
 Asp Leu Glu Asp Ala Glu Asp Thr Val Ser Ala Ala Asp Pro Glu Phe
 115 120 125
 Cys His Pro Leu Cys Gln Cys Pro Lys Cys Ala Pro Ala Gln Lys Arg
 130 135 140
 Leu Ala Lys Val Pro Ala Ser Gly Leu Gly Val Asn Val Thr Ser Gln
 145 150 155 160
 Asp Gly Ser Ser Pro Leu His Val Ala Ala Leu His Gly Arg Ala Asp
 165 170 175
 Leu Ile Arg Leu Leu Leu Lys His Gly Ala Asn Ala Gly Ala Arg Asn
 180 185 190
 Ala Asp Gln Ala Val Pro Leu His Leu Ala Cys Gln Gln Gly His Phe
 195 200 205
 Gln Val Val Lys Cys Leu Leu Asp Ser Asn Ala Lys Pro Asn Lys Lys
 210 215 220
 Asp Leu Ser Gly Asn Thr Pro Leu Ile Tyr Ala Cys Ser Gly Gly His
 225 230 235 240Glu Leu
 Val Ala Leu Leu Leu Gln His Gly Ala Ser Ile Asn Ala
 245 250 255
 Leu Thr Ile Arg Gly Asn Thr Ala Leu His Glu Ala Val Ile Glu Lys
 260 265 270
 His Val Phe Val Val Glu Leu Leu Leu Leu His Gly Ala Ser Val Arg
 275 280 285
 Cys

<210> 3875
 <211> 2640
 <212> DNA
 <213> Homo sapiens

<400> 3875
 atggcgccgg cagttgtggt ggcggagggg gacagcgact cccggcccgg acaggagttg
 60
 ttagtggcct ggaacaccgt gagcaccggc ctggtgccgc cggctgcgct ggggctggtg
 120

tcttcccga ccagcgggtgc agtcccgcc aaggaagagg agctccgggc ggcgggtggag
180
gttctgaggg gccacgggct acactcggtc ctggaggagt ggttcgtgga ggtgctgcag
240
aacgatctgc aggccaacat ctcccctgag ttctggaatg ccatctccca atgcgagaac
300
tctgcggtatg agccccagt ccttttgcta ctcttgacg cttttggcct gctggagagc
360
cgcttgatc cctacctgag tagcctagag ctgctggaga aatggactcg cctgggcttg
420
ctgatgggca ctggtgctca ggggctgcga gaagaagtcc acactatggt gcgcggagtc
480
ttgttcttta gcacccccag aaccttccaa gagatgatcc agcgtctgta tgggtgcttc
540
ttgagagtct atatgcagag taagaggaag ggggaagggg gcacagaccc ggaactggaa
600
ggggagctgg acagccggta tgcccgtcgc cgggtactacc ggctcctgca gagcccgctg
660
tgtgcagggg gcagcagtga caagcaacag tgctgggtgc gccaggctct ggagcagttc
720
catcagctca gccaggctct acacaggctc agtctgctgg agcgggtcag tgccgaggct
780
gtgaccacca ccctgcacca ggtgacccgg gagaggatgg aggaccgttg cgggggcgag
840
tacgagcgt ccttctcgcg tgagttccac aggtggatcg agcgggtggg cggctggctc
900
ggcaagggtg tctgcagga cggccccgcc agggccgcat ctcccgaggc cggcaacacc
960
ctgcgcccgt ggcgctgcc cgtgcaaagg ttcttctacc gcatctacgc cagcctgcgc
1020
atcaggagc tcttcagcat cgtccgagac ttcccagact cccggccagc catcgaggac
1080
ctcaagtact gcctggagag gacggaccag aggcagcagc tgctcgtgtc cctcaaggct
1140
gccctggaga ctcggtcct gcatccaggc gtcaacacgt gtgacatcat caccctctat
1200
atctctgcc tcaaggcgt gcgcgtgctg gacccttcca tggatcctc ggaggtggcc
1260
tgtgagccta tccgccgcta cctgaggacg cgggaggaca cagtgcggca gattgtggct
1320
gggctgacgg gggactcgga cgggacaggg gacctggctg ttgagctgtc caagaccgac
1380
cgggcgagcc tggagacagg ccaggacagt gaggatgact caggcgagcc agaggactgg
1440
gtcccgacc ctgtggatgc cgatccaggg aagtgcagct ccaagcggcg ttcacggac
1500
atcatcagcc tgctggtcag catctacggc agcaaggacc tcttcatcaa tgagtaccgc
1560
tcgctgctgg ccgaccgct gctgcaccag ttcagcttca gccccgagcg ggagatccgc
1620
aacgtggagc tgctgaagct gcgctttggc gaggcccaa tgcacttctg tgaagtcatg
1680
ctgaaggaca tggcggactc ccgccgcatc aatgccaaaca tccgggagga ggatgagaag
1740

cggnnccagc agaggagcag ccaccgttcg gggctctacgc tgtcatcctg tccagtgcgt
 1800
 tctggccgcc cttcaaggac gnagaagctg gaggtccccg aggatatcag ggcagccctg
 1860
 gaggcttact gcaagaagta tgagcagctc aaggccatgc ggaccctcag ttggaagcac
 1920
 accctgggcc tggtgaccat ggacgtggag ctggccgacc gcacgctgtc tgtggcggtc
 1980
 accccagtac aggcggtgat cttgctgtat tttcaggacc aagccagctg gaccctggag
 2040
 gaactgagca aggcggtgaa aatgcccgtg gcgctgctgc ggcggcggat gtccgtgtgg
 2100
 ctgcagcagg gtgtgctgcg tgagnngagc cccccggcac cttctctgtc attgaggagg
 2160
 agcggcctca ggaccgggna caacatggtg ctcatcgaca gtgacgacga gagcgactcc
 2220
 ggcattggcct cccaggccga ccagaaggag gaggagctgc tgctcttctg gacgtacatc
 2280
 caggccatgc tgaccaacct ggagagcctc tcactggatc gtatctacaa catgctccgc
 2340
 atgtttgtgg tgactgggcc tgactgggcc gagattgacc tgcaggagct gcagggctac
 2400
 ctgcagaaga aggtgcggga ccagcagctc gtctactcgg ccggcgtcta ccgcctgccc
 2460
 aagaactgca gctgacacat cgcccgcccg cccgcccgcg cgccaggcgc tgccctgcag
 2520
 gtgctctcgt cctcccgctc cagccccgcg ccgcccgtgt cccagaatgc actgctgagg
 2580
 agcatgcccc cccccacccc cgagtgctgc agattaaagc aagtcagatc atcaaaaaaa
 2640

<210> 3876

<211> 824

<212> PRT

<213> Homo sapiens

<400> 3876

Met	Ala	Ala	Ala	Val	Val	Val	Ala	Glu	Gly	Asp	Ser	Asp	Ser	Arg	Pro
1				5					10					15	
Gly	Gln	Glu	Leu	Leu	Val	Ala	Trp	Asn	Thr	Val	Ser	Thr	Gly	Leu	Val
			20					25					30		
Pro	Pro	Ala	Ala	Leu	Gly	Leu	Val	Ser	Ser	Arg	Thr	Ser	Gly	Ala	Val
		35				40					45				
Pro	Pro	Lys	Glu	Glu	Glu	Leu	Arg	Ala	Ala	Val	Glu	Val	Leu	Arg	Gly
	50					55				60					
His	Gly	Leu	His	Ser	Val	Leu	Glu	Glu	Trp	Phe	Val	Glu	Val	Leu	Gln
65					70				75					80	
Asn	Asp	Leu	Gln	Ala	Asn	Ile	Ser	Pro	Glu	Phe	Trp	Asn	Ala	Ile	Ser
			85					90						95	
Gln	Cys	Glu	Asn	Ser	Ala	Asp	Glu	Pro	Gln	Cys	Leu	Leu	Leu	Leu	Leu
			100				105				110				
Asp	Ala	Phe	Gly	Leu	Leu	Glu	Ser	Arg	Leu	Asp	Pro	Tyr	Leu	Arg	Ser
		115				120					125				
Leu	Glu	Leu	Leu	Glu	Lys	Trp	Thr	Arg	Leu	Gly	Leu	Leu	Met	Gly	Thr

130	135	140
Gly Ala Gln Gly Leu Arg Glu Glu Val His Thr Met Leu Arg Gly Val		
145	150	155
Leu Phe Phe Ser Thr Pro Arg Thr Phe Gln Glu Met Ile Gln Arg Leu		160
	165	170
Tyr Gly Cys Phe Leu Arg Val Tyr Met Gln Ser Lys Arg Lys Gly Glu		175
	180	185
Gly Gly Thr Asp Pro Glu Leu Glu Gly Glu Leu Asp Ser Arg Tyr Ala		190
	195	200
Arg Arg Arg Tyr Tyr Arg Leu Leu Gln Ser Pro Leu Cys Ala Gly Cys		205
	210	215
Ser Ser Asp Lys Gln Gln Cys Trp Cys Arg Gln Ala Leu Glu Gln Phe		220
225	230	235
His Gln Leu Ser Gln Val Leu His Arg Leu Ser Leu Leu Glu Arg Val		240
	245	250
Ser Ala Glu Ala Val Thr Thr Thr Leu His Gln Val Thr Arg Glu Arg		255
	260	265
Met Glu Asp Arg Cys Arg Gly Glu Tyr Glu Arg Ser Phe Leu Arg Glu		270
	275	280
Phe His Arg Trp Ile Glu Arg Val Val Gly Trp Leu Gly Lys Val Phe		285
	290	295
Leu Gln Asp Gly Pro Ala Arg Pro Ala Ser Pro Glu Ala Gly Asn Thr		300
305	310	315
Leu Arg Arg Trp Arg Cys His Val Gln Arg Phe Phe Tyr Arg Ile Tyr		320
	325	330
Ala Ser Leu Arg Ile Glu Glu Leu Phe Ser Ile Val Arg Asp Phe Pro		335
	340	345
Asp Ser Arg Pro Ala Ile Glu Asp Leu Lys Tyr Cys Leu Glu Arg Thr		350
	355	360
Asp Gln Arg Gln Gln Leu Leu Val Ser Leu Lys Ala Ala Leu Glu Thr		365
	370	375
Arg Leu Leu His Pro Gly Val Asn Thr Cys Asp Ile Ile Thr Leu Tyr		380
385	390	395
Ile Ser Ala Ile Lys Ala Leu Arg Val Leu Asp Pro Ser Met Val Ile		400
	405	410
Leu Glu Val Ala Cys Glu Pro Ile Arg Arg Tyr Leu Arg Thr Arg Glu		415
	420	425
Asp Thr Val Arg Gln Ile Val Ala Gly Leu Thr Gly Asp Ser Asp Gly		430
	435	440
Thr Gly Asp Leu Ala Val Glu Leu Ser Lys Thr Asp Pro Ala Ser Leu		445
	450	455
Glu Thr Gly Gln Asp Ser Glu Asp Asp Ser Gly Glu Pro Glu Asp Trp		460
465	470	475
Val Pro Asp Pro Val Asp Ala Asp Pro Gly Lys Ser Ser Ser Lys Arg		480
	485	490
Arg Ser Ser Asp Ile Ile Ser Leu Leu Val Ser Ile Tyr Gly Ser Lys		495
	500	505
Asp Leu Phe Ile Asn Glu Tyr Arg Ser Leu Leu Ala Asp Arg Leu Leu		510
	515	520
His Gln Phe Ser Phe Ser Pro Glu Arg Glu Ile Arg Asn Val Glu Leu		525
	530	535
Leu Lys Leu Arg Phe Gly Glu Ala Pro Met His Phe Cys Glu Val Met		540
545	550	555
Leu Lys Asp Met Ala Asp Ser Arg Arg Ile Asn Ala Asn Ile Arg Glu		560

565 570 575
 Glu Asp Glu Lys Arg Xaa Gln Gln Arg Ser Ser His Arg Ser Gly Ser
 580 585 590
 Thr Leu Ser Ser Cys Pro Val Ser Ser Gly Arg Pro Ser Arg Thr Xaa
 595 600 605
 Lys Leu Glu Val Pro Glu Asp Ile Arg Ala Ala Leu Glu Ala Tyr Cys
 610 615 620
 Lys Lys Tyr Glu Gln Leu Lys Ala Met Arg Thr Leu Ser Trp Lys His
 625 630 635 640
 Thr Leu Gly Leu Val Thr Met Asp Val Glu Leu Ala Asp Arg Thr Leu
 645 650 655
 Ser Val Ala Val Thr Pro Val Gln Ala Val Ile Leu Leu Tyr Phe Gln
 660 665 670
 Asp Gln Ala Ser Trp Thr Leu Glu Leu Ser Lys Ala Val Lys Met
 675 680 685
 Pro Val Ala Leu Leu Arg Arg Met Ser Val Trp Leu Gln Gln Gly
 690 695 700
 Val Leu Arg Glu Xaa Ser Pro Pro Ala Pro Ser Leu Ser Leu Arg Arg
 705 710 715 720
 Ser Gly Leu Arg Thr Gly Xaa Asn Met Val Leu Ile Asp Ser Asp Asp
 725 730 735
 Glu Ser Asp Ser Gly Met Ala Ser Gln Ala Asp Gln Lys Glu Glu Glu
 740 745 750
 Leu Leu Leu Phe Trp Thr Tyr Ile Gln Ala Met Leu Thr Asn Leu Glu
 755 760 765
 Ser Leu Ser Leu Asp Arg Ile Tyr Asn Met Leu Arg Met Phe Val Val
 770 775 780
 Thr Gly Pro Ala Leu Ala Glu Ile Asp Leu Gln Glu Leu Gln Gly Tyr
 785 790 795 800
 Leu Gln Lys Lys Val Arg Asp Gln Gln Leu Val Tyr Ser Ala Gly Val
 805 810 815
 Tyr Arg Leu Pro Lys Asn Cys Ser
 820

<210> 3877

<211> 1112

<212> DNA

<213> Homo sapiens

<400> 3877

nngaattcca tgaacatga ggatcccagt atcatatcca tggaagatgg gtcccatat
 60
 gttaatggct cattaggtga agtgactcca tgccaacatg caaagaaggc gaatggccca
 120
 aactatattc agcctcaaaa aagacagacc acttttgaaa gccaggatcg caaggcagtg
 180
 tcccctagca gttctgaaaa gagaagtaag aatcctatct ctaggccatt agaagtaag
 240
 aagtccttaa gtcttagtgc aaagactcac aacataggct ttgacaaaaga cagctgcat
 300
 agtaccacaa agacagaagc ttcacaggaa gagcgggtctg attcaagcgg cctcacatct
 360
 ctcaagaaat caccaaaggc ctcacccaag gacactcggg aaatcaaaac tgattttctca
 420

ctttctatta gtaattcgtc agatgtgagt gctaaagata agcatgctga agacaatgag
 480
 aagcgtttgg cagccttgga agcgaggcaa aaagcaaaag aagtgcagaa gaagctggtg
 540
 cataatgctc tggcaaattt ggatgggtcat ccagaggata agccaacgca catcatcttc
 600
 ggttctgaca gtgaatgtga aacagaggag acatcgactc aggagcagag ccatccagga
 660
 gaggaatggg tgaaagagtc tatgggtaaa acatcaggga agctgtttga tagcagtgat
 720
 gatgaggaat ctgattctga agatgacagt aataggttca aaattaaacc tcagtgtgag
 780
 ggcagagctg gacagaagct catggattta cagtcgcact ttggcaccga tgacagattc
 840
 cgcattggact ctcgatttct agaaactgac agtgaagagg aacaggaaga ggtaaatgaa
 900
 aagaaaactg ctgaggaaga agagcttgct gaagaaaaaa agaaagccct gaatgttgta
 960
 caaagtgttt tgcaaatcaa cttaagcaat tctacaaaca gaggatcagt agctgctaag
 1020
 aaatttaagg acatcataca ttatgatcca acgaagcaag accatgccac ttacgaaaga
 1080
 aaaagagatg ataaaccaa agaaagtaaa gc
 1112

<210> 3878

<211> 370

<212> PRT

<213> Homo sapiens

<400> 3878

Xaa	Asn	Ser	Met	Lys	His	Glu	Asp	Pro	Ser	Ile	Ile	Ser	Met	Glu	Asp
1				5					10					15	
Gly	Ser	Pro	Tyr	Val	Asn	Gly	Ser	Leu	Gly	Glu	Val	Thr	Pro	Cys	Gln
				20				25					30		
His	Ala	Lys	Lys	Ala	Asn	Gly	Pro	Asn	Tyr	Ile	Gln	Pro	Gln	Lys	Arg
				35				40					45		
Gln	Thr	Thr	Phe	Glu	Ser	Gln	Asp	Arg	Lys	Ala	Val	Ser	Pro	Ser	Ser
				50				55				60			
Ser	Glu	Lys	Arg	Ser	Lys	Asn	Pro	Ile	Ser	Arg	Pro	Leu	Glu	Gly	Lys
65						70				75				80	
Lys	Ser	Leu	Ser	Leu	Ser	Ala	Lys	Thr	His	Asn	Ile	Gly	Phe	Asp	Lys
				85					90					95	
Asp	Ser	Cys	His	Ser	Thr	Thr	Lys	Thr	Glu	Ala	Ser	Gln	Glu	Glu	Arg
				100				105					110		
Ser	Asp	Ser	Ser	Gly	Leu	Thr	Ser	Leu	Lys	Lys	Ser	Pro	Lys	Val	Ser
				115				120					125		
Ser	Lys	Asp	Thr	Arg	Glu	Ile	Lys	Thr	Asp	Phe	Ser	Leu	Ser	Ile	Ser
				130				135				140			
Asn	Ser	Ser	Asp	Val	Ser	Ala	Lys	Asp	Lys	His	Ala	Glu	Asp	Asn	Glu
145					150					155				160	
Lys	Arg	Leu	Ala	Ala	Leu	Glu	Ala	Arg	Gln	Lys	Ala	Lys	Glu	Val	Gln
				165					170					175	
Lys	Lys	Leu	Val	His	Asn	Ala	Leu	Ala	Asn	Leu	Asp	Gly	His	Pro	Glu

```
<210> 3879
<211> 2769
<212> DNA
<213> Homo sapiens
```

3023

ttgggctccc tggaggtttt taagcagtac gtgcctccaa gttacctcca gatcagcagg
720
cacagggtggg cattgccagg tatttttctga gcccctgcgg gtttgaggcc ttgttttttag
780
tgctgagagc cagttgctgc cctgagaaga gaagacaacc tccatctatt tattgcttcc
840
tgagaactga cctggatgcg gccctctgca gggcccagtc ttcagtcctg tggtccttg
900
actgggtggga acctgaacta ggagtcctgg gagagctgtg gtgggaatat gggctggcac
960
tgctgcaggg caagaacatt catgtaggag cccgaggacc agcaggctgg gaatggggag
1020
caagtcacgt cagctctgtc attccccaca gttaacaaat tggcgggggtg ggaagtcctg
1080
agtgtccgt cctcttagca tcaactctga gctgcgggag aggtggccca gagaacagca
1140
gagtcagtta cacctgcagc tcttgtctaa agtgattaga tggccaccct caccactgtc
1200
cagtcagca gcagcctggc tgccctgtca tggcctcctg ggggcagaag gcgatgtgga
1260
ccacgggatt tgtagccagc cagctcccag gccaacgccc aaagccctga tgacctggtt
1320
cttctgaggc cctcaacctg gcattcttagg gtatggtcag gcaacagggt gaccagctgt
1380
cctggtttcc caggacatgg aactttcaat gctaaaactg ggacattacc cagcaagtgg
1440
ggatgggttg tccctacca ggagagggcc tggggctctt gcttcccgag aacgcctgtg
1500
gcttgaagaa ccttgactgc ttggctctca ggtatctacc tccaccttc tctcatctg
1560
tggagcaagc caactcagt cccagaccc cactgatct gcattttgt ttgcatctcc
1620
agagacacct gagggcccag agcttgaggc aaagccaggc cgtccaaatc ctgtgtgccg
1680
tggacgagtg gccactttac tactcctaag gctaagatgt tgagagctca gaccactgct
1740
cagagcagta atccctgctc agaatgctcc cagttccctc gtccctgcc aggtctcttg
1800
tctcttggga aggaactgat aggtcgggcc attgttgggc catcattgag cgctcagtat
1860
ctcaagagac tctgttcatt ctgctcgat cccaaggcct ggttgggtcaa actctgggca
1920
aagggttttc aggatgagga ggtcaagaca ggatgtccag agctaccgag ttcatctgtg
1980
ggtgttgggg gcaagtgggg gctgaagtcc tgtgcaggct gcgctggccc cacctgcctt
2040
gtgccctgga gtggggtttc tcttgttga agaagaggca tcttctctg atgtgcacaa
2100
acacaatgta tgaccagagc cttgcaactc aaagtgtggt ctgtggacca gcagcggcag
2160
tgacacctgg gagcttgta ggaatgcaga gtctaggcct caccctatac ctcccgaact
2220
agacctgca ttttagcaag acccccagct gattcctata agcactttag agtttgagaa
2280

gcaaggacct aggctgggga tgtcctccga gcagagggtg aagtttctct cagttctctc
 2340
 cctgccactt ccagggatct gagcctgtgt tcagcctcct ccctaaccga ccctgggaga
 2400
 cacttggcct gttagattgt tccagagtct gcatggcact cctgaagaag ggagtgtgac
 2460
 ctgcagtcac caggagatga gggttaggtg tgcccagccc tccagaccg gcctttctgg
 2520
 ttaacccctg catgccaagc tgccctgtgc cccaggctcct cacctcaggc ctttgaaggg
 2580
 gcagcttctg gaagttgttt tctcctctgc ttggagagtt tgcccttgtc tgtcttgaa
 2640
 agtgtgggca gccacagatg cccccaaatc agagctcaca gtgagtgage ccctaagctt
 2700
 cagtctgcaa taaagaatgc attggtttca aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa
 2760
 aaaaaaaaaa
 2769

<210> 3880
 <211> 116
 <212> PRT
 <213> Homo sapiens

<400> 3880
 Xaa Met Thr Thr Phe Ser Gln Leu Arg Asp Leu His Leu Glu Gly Asn
 1 5 10 15
 Phe Leu His Arg Leu Pro Ser Glu Val Ser Ala Leu Gln His Leu Lys
 20 25 30
 Ala Ile Asp Leu Ser Arg Asn Gln Phe Gln Asp Phe Pro Glu Gln Leu
 35 40 45
 Thr Ala Leu Pro Ala Leu Glu Thr Ile Asn Leu Glu Glu Asn Glu Ile
 50 55 60
 Val Asp Val Pro Val Glu Lys Leu Ala Ala Met Pro Ala Leu Arg Ser
 65 70 75 80
 Ile Asn Leu Arg Phe Asn Pro Leu Asn Ala Glu Val Arg Val Ile Ala
 85 90 95
 Pro Pro Leu Ile Lys Phe Asp Met Leu Met Ser Pro Glu Gly Ala Arg
 100 105 110
 Ala Pro Leu Pro
 115

<210> 3881
 <211> 1393
 <212> DNA
 <213> Homo sapiens

<400> 3881
 gatctgggtc cctggagcca gtacgtcct ccagagtgga gccaggggga cagtggagcc
 60
 aaggagggca aagtgaagct tctgggaaa cctgtgcaga tgccctctct gaactggcca
 120
 gaagccctgc cccacacctc tccttcttgt gaactgagct gcctagaagg gccggaggag
 180

gagctggagg gcagctcaga gccagaggag tgggtcccg ccaatgcctga gagaagtcac
 240
 ctgacggagc ccagctccag tggagggtgg ctggtcacc catcccgaag ggaaaccccc
 300
 tctccacac ctctctatgg acagcagtcc acagccactc ttacaccctc acctcctgac
 360
 cctccccagc cccaactga catgccccat ctccatcaga tgcccaggag ggtgccccctt
 420
 gggccgagtt cccctctcag tgtatcccag cccatgctgg gcatccgtga agcgaggcct
 480
 gctggcttgg gtgctggccc tgcagcctca cccacctca gcccagtcc tgcccctagc
 540
 acagccagca gtgccccagg cagaacctgg caggggaatg gggagatgac tccccactt
 600
 caaggacccc gtgctcgatt ccggaagaaa cccaaggctc ttccctacag gagggagaac
 660
 agtctgggg acttgcccc accacccttg ccaccgccag agngaagagg cgagctgggc
 720
 cctagagctg agggcagcag gcagcatgtc ctccctggag cgggagcgca gtggggagag
 780
 gaaagcggtc caggccgtgc ccctggcagc ccagcgggtg ctccaccag atgaagaggc
 840
 ctggctccca tacagcagac caagcttctt gtcccggggc cagggcacca gcacatgttc
 900
 cacggccggc agcaactctt ccaggggctc cagcagctct aggggctccc ggggccctgg
 960
 ccggagccgg agtcggagtc agagccggag ccagagccaa aggccaggac agaaacgccg
 1020
 agaggaacca agatgaccct tgttggggca ttgagaatat catgagtgcc acgggggaagg
 1080
 ggagtaggga tgtcttttcc ccccagcag tgatgagtgg ggctagctga agcccattgg
 1140
 tttccacgat ttcaattggc tgagaaggca gagagctagc tcctcccttt ctttcttttt
 1200
 ccactgaga cttgtttata aaaaacaaaa caataaaaag agtctgatca gagcccaggg
 1260
 ccctgtctgt ctggttctgt gcagcaggtt gggaagaagg ggactgcagg gtcctgtata
 1320
 tcaacgcaca ctggtagctt ctgcttcccc tgccatccgt caaaagcact aagttaggcc
 1380
 agcacaatgc cct
 1393

<210> 3882

<211> 277

<212> PRT

<213> Homo sapiens

<400> 3882

Asp	Leu	Gly	Pro	Trp	Ser	Gln	Tyr	Ala	Pro	Pro	Glu	Trp	Ser	Gln	Gly
1				5				10						15	
Asp	Ser	Gly	Ala	Lys	Gly	Gly	Lys	Val	Lys	Leu	Leu	Gly	Lys	Pro	Val
			20				25					30			
Gln	Met	Pro	Ser	Leu	Asn	Trp	Pro	Glu	Ala	Leu	Pro	Pro	Pro	Pro	Pro

35 40 45
 Ser Cys Glu Leu Ser Cys Leu Glu Gly Pro Glu Glu Glu Leu Glu Gly
 50 55 60
 Ser Ser Glu Pro Glu Glu Trp Cys Pro Pro Met Pro Glu Arg Ser His
 65 70 75 80
 Leu Thr Glu Pro Ser Ser Gly Gly Trp Leu Val Thr Pro Ser Arg
 85 90 95
 Arg Glu Thr Pro Ser Pro Thr Pro Ser Tyr Gly Gln Gln Ser Thr Ala
 100 105 110
 Thr Leu Thr Pro Ser Pro Pro Asp Pro Pro Gln Pro Pro Thr Asp Met
 115 120 125
 Pro His Leu His Gln Met Pro Arg Arg Val Pro Leu Gly Pro Ser Ser
 130 135 140
 Pro Leu Ser Val Ser Gln Pro Met Leu Gly Ile Arg Glu Ala Arg Pro
 145 150 155 160
 Ala Gly Leu Gly Ala Gly Pro Ala Ala Ser Pro His Leu Ser Pro Ser
 165 170 175
 Pro Ala Pro Ser Thr Ala Ser Ser Ala Pro Gly Arg Thr Trp Gln Gly
 180 185 190
 Asn Gly Glu Met Thr Pro Pro Leu Gln Gly Pro Arg Ala Arg Phe Arg
 195 200 205
 Lys Lys Pro Lys Ala Leu Pro Tyr Arg Arg Glu Asn Ser Pro Gly Asp
 210 215 220
 Leu Pro Pro Pro Pro Leu Pro Pro Pro Glu Xaa Arg Gly Glu Leu Gly
 225 230 235 240
 Pro Arg Ala Glu Gly Ser Arg Gln His Val Leu Pro Gly Ala Gly Ala
 245 250 255
 Gln Trp Gly Glu Glu Ser Gly Pro Gly Arg Ala Pro Gly Ser Pro Ala
 260 265 270
 Gly Ala Pro Pro Arg
 275

<210> 3883

<211> 943

<212> DNA

<213> Homo sapiens

<400> 3883

ncccggggac ggggggtcga aaagagaaag aagaagagca ggaaagacac ctcgaggaac
 60
 tgctcggcct ccacatccca agagagaagc aagcagaagg cccggaggag aacaagatcc
 120
 agctcctcct cctcttcttc cagttcttct agctcctctt ctctctcttc gtctctctcc
 180
 tcttcctcca gtgatggccg gaagaagcgg gggaagtaca aggacaagag gaggaagaag
 240
 aagaagaaga ggaagaagct gaagaagaag ggcaaggaga aggcggaagc acagcagggtg
 300
 gaggcctctgc cgggcccttc gctggaccag tggcaccgat cagctgggga ggaagaggat
 360
 ggcccagtc tgacggatga gcaggtcccg aatccaggcc atgaagccca tgaccaagga
 420
 ggatgggatg cccggcagag cgttattcga aaggtggtgg acccagagac ggggagcacc
 480

aggccttatta agggagatgg cgaggctcta gaggaaatcg taaccaaaga acgacacaga
 540
 gagatcaaca aggtgggtgt ggcctctctg cctgccatcc gccccagct ctgtttgtga
 600
 tgtacccctc ctctgtgtg ttttcttccc cagcaagcca cccgagggga ctgcctggcc
 660
 ttccagatgc gagctgggtt gcttcctga gggccccgc tggccaaggc ctgtggacga
 720
 cgctggcggc ccagcctggg caggtttcag ggtgccagt ggaagcctga tgggtgctgg
 780
 tggcctttcc cccgtggatt ggtctctggc ccagcccagt ctcttctcag gggcaggggg
 840
 tggaggttgg ggtcaccggc ctgcttgga ccccatctg aaagagcagc acttctcagc
 900
 tattaaaggc cccctggata gacaaaaaaaa aaaaaaaaaa aaa
 943

<210> 3884
 <211> 199
 <212> PRT
 <213> Homo sapiens

<400> 3884
 Xaa Arg Gly Arg Gly Ser Glu Lys Arg Lys Lys Lys Ser Arg Lys Asp
 1 5 10 15
 Thr Ser Arg Asn Cys Ser Ala Ser Thr Ser Gln Glu Arg Ser Lys Gln
 20 25 30
 Lys Ala Arg Arg Arg Thr Arg Ser Ser Ser Ser Ser Ser Ser Ser
 35 40 45
 Ser Ser Ser Ser Ser Ser Ser Ser Ser Ser Ser Ser Ser Ser Ser
 50 55 60
 Asp Gly Arg Lys Lys Arg Gly Lys Tyr Lys Asp Lys Arg Arg Lys Lys
 65 70 75 80
 Lys Lys Lys Arg Lys Lys Leu Lys Lys Lys Gly Lys Glu Lys Ala Glu
 85 90 95
 Ala Gln Gln Val Glu Ala Leu Pro Gly Pro Ser Leu Asp Gln Trp His
 100 105 110
 Arg Ser Ala Gly Glu Glu Glu Asp Gly Pro Val Leu Thr Asp Glu Gln
 115 120 125
 Val Pro Asn Pro Gly His Glu Ala His Asp Gln Gly Gly Trp Asp Ala
 130 135 140
 Arg Gln Ser Val Ile Arg Lys Val Val Asp Pro Glu Thr Gly Arg Thr
 145 150 155 160
 Arg Leu Ile Lys Gly Asp Gly Glu Val Leu Glu Glu Ile Val Thr Lys
 165 170 175
 Glu Arg His Arg Glu Ile Asn Lys Val Gly Val Ala Pro Leu Pro Ala
 180 185 190
 Ile Arg Pro Gln Leu Cys Leu
 195

<210> 3885
 <211> 1671
 <212> DNA
 <213> Homo sapiens

<400> 3885
 cctaggctcc cccctcctcc catccccagc ctgggggaac cttcagcgtc tctcctccct
 60
 gtaggccccg gctcagcttc ccaggaactt ttgttggtgg gtactagtgg ggtaaggcag
 120
 ttcttcccat catgaggag accttgggag actttcatta ccaaaccat tgctgccccg
 180
 accttcctgg gactgatctg ggtcaccctg gtctcctgat cttggagaag tcaagtctct
 240
 atcccagact tgagagggtta caagcctcca ggtctctggc aaagtgtgga gatgatggac
 300
 agccatttgt acacacacca gccagtcctt tagcatactt ctcttggttt tgtctcaggt
 360
 ctgcctcagc cacctccctg acgtgtctcc actgtgtgga tgtggtgaag gggcttctgg
 420
 attttaagaa gaggagaggt cactcaattg ggggagcccc tgagcagcga taccagatca
 480
 tccctgtgtg tgtggctgcc cgacttctta cccgggctca ggatgtgctg cagcctcctg
 540
 gccactggag gggctgaccg cctgatccac ctctggaatg ttgtgggaag tcgcctggag
 600
 gccaaaccaga ccctggaggg agctgggtggc agcatcacca gtgtggactt tgacccctcg
 660
 ggctaccagg ttttagcagc aacttacaac caggctgccc agctctgga gggtggggag
 720
 gcacagtcca aggagacact gtctggacac aaggataagg tgacagctgc caaattcaag
 780
 ctaacgaggg accaggcagt gactgggagc cgcgaccgga cagtgaagga gtgggacctc
 840
 ggccgtgcct attgctccag gaccatcaat gtcctttcct actgtaatga cgtgggtgntg
 900
 tggggaccat atcatcatnn tagtggccac aatgaccaga agatccggtt ctgggacagc
 960
 nnagggggcc cactgcacc caggtcatcc ctgntgcagg gccgggtcac ctccctgagc
 1020
 ctcagncac gaccaactnn gcacctgctc agctgttccc gagacaacac actcaaggtc
 1080
 atcgacctgc gtgtcagcaa catccgccag gtgttcaggg ccgatggctt caagtgtggt
 1140
 tctgactgga ccaaagctgt gttcagcccg gacagaagct atgcactggc aggtcctgt
 1200
 gatggggccc ttacatctg ggatgtggac accgggaaac tggagagcag actacaggga
 1260
 cccattgctg ctgccgtcaa cgccgtggcc tgggtgctact ccgggagcca catggtgagc
 1320
 gtggaccagg gcaggaagggt tgtgctctgg cagtggggc acgacctgcc tgcctgggct
 1380
 ggagctcttg cccgaagcct gaagcttctt tcggcgccat gcaggggttg gggttgggac
 1440
 tggagctggc cttgggattt aatggggaag aaggcctggc aggacctggc ctgtttgttt
 1500
 aaaaatgaag tatgggttgg gggattacgc tagtttttct ttgtattttt atctctatct
 1560

atctctcac tttttctccc aaagtagaaa aaaatgatat ctgaaaaaaaa aaaaaaaaaa
 1620
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa a
 1671

<210> 3886

<211> 277

<212> PRT

<213> Homo sapiens

<400> 3886

Met	Cys	Cys	Ser	Leu	Leu	Ala	Thr	Gly	Gly	Ala	Asp	Arg	Leu	Ile	His
1				5				10					15		
Leu	Trp	Asn	Val	Val	Gly	Ser	Arg	Leu	Glu	Ala	Asn	Gln	Thr	Leu	Glu
		20						25				30			
Gly	Ala	Gly	Gly	Ser	Ile	Thr	Ser	Val	Asp	Phe	Asp	Pro	Ser	Gly	Tyr
	35					40					45				
Gln	Val	Leu	Ala	Ala	Thr	Tyr	Asn	Gln	Ala	Ala	Gln	Leu	Trp	Lys	Val
	50				55					60					
Gly	Glu	Ala	Gln	Ser	Lys	Glu	Thr	Leu	Ser	Gly	His	Lys	Asp	Lys	Val
65				70					75				80		
Thr	Ala	Ala	Lys	Phe	Lys	Leu	Thr	Arg	His	Gln	Ala	Val	Thr	Gly	Ser
			85					90					95		
Arg	Asp	Arg	Thr	Val	Lys	Glu	Trp	Asp	Leu	Gly	Arg	Ala	Tyr	Cys	Ser
			100					105					110		
Arg	Thr	Ile	Asn	Val	Leu	Ser	Tyr	Cys	Asn	Asp	Val	Val	Xaa	Trp	Gly
	115						120					125			
Pro	Tyr	His	His	Xaa	Ser	Gly	His	Asn	Asp	Gln	Lys	Ile	Arg	Phe	Trp
	130					135					140				
Asp	Ser	Xaa	Gly	Gly	Pro	Thr	Ala	Pro	Arg	Ser	Ser	Leu	Xaa	Gln	Gly
145				150					155					160	
Arg	Val	Thr	Ser	Leu	Ser	Leu	Ser	Xaa	Arg	Pro	Thr	Xaa	His	Leu	Leu
			165					170					175		
Ser	Cys	Ser	Arg	Asp	Asn	Thr	Leu	Lys	Val	Ile	Asp	Leu	Arg	Val	Ser
			180					185					190		
Asn	Ile	Arg	Gln	Val	Phe	Arg	Ala	Asp	Gly	Phe	Lys	Cys	Gly	Ser	Asp
	195						200					205			
Trp	Thr	Lys	Ala	Val	Phe	Ser	Pro	Asp	Arg	Ser	Tyr	Ala	Leu	Ala	Gly
	210					215					220				
Ser	Cys	Asp	Gly	Ala	Leu	Tyr	Ile	Trp	Asp	Val	Asp	Thr	Gly	Lys	Leu
225				230					235					240	
Glu	Ser	Arg	Leu	Gln	Gly	Pro	His	Cys	Ala	Ala	Val	Asn	Ala	Val	Ala
			245					250					255		
Trp	Cys	Tyr	Ser	Gly	Ser	His	Met	Val	Ser	Val	Asp	Gln	Gly	Arg	Lys
		260					265						270		
Val	Val	Leu	Trp	Gln											
		275													

<210> 3887

<211> 5612

<212> DNA

<213> Homo sapiens

<400> 3887

nngggcccag cagccactga gccagcaggc gggatcgagg ccggcaacat ggcgagcgct
60
tcgtaccaca tctccaactt gctggaaaaa atgacatcca gcgacaagga cttcaggttt
120
atggctacaa atgatctgat gacagaactg cagaaagact ccatcaagct ggatgatgac
180
agcgaaagga aagtcgtaaa gatgattctg aagttgctgg aggataaaaa tggcgaagtg
240
cagaacttag ctgtgaaatg tcttggctct ttagtgagta aagtgaaga gtaccaagtt
300
gagacgattg tagataccct ctgcactaac atgctttctg ataaagaaca acttcgagac
360
atttcaagta ttggtcttaa aacagtaatt ggagaacttc ctccagcttc cagtggctct
420
gcattagctg ctaatgtatg taaaaagatt actggacgtc ttacaagtgc aatagcaaaa
480
caggaagatg tctctgttca gctagaagcc ttggatatta tggctgatat gttgagcagg
540
caaggaggac ttcttgtaa tttccatcct tcaattctga cctgtctact tccccagttg
600
accagcccta gacttgcagt gaggaaga accattatcg ctcttggcca tctggttatg
660
agctgtggaa atatagtttt tgtagatctt attgaacatc tgttgtcaga gttgtccaaa
720
aatgattcta tgtcaacaac aagaacctac atacaatgta ttgctgctat tagtaggcaa
780
gctggtcata gaataggtga ataccttgag aagataatc ctttggtggt aaaattttgc
840
aatgtagatg atgatgaatt aagagagtac tgtattcaag cctttgaatc atttgaaga
900
agatgtccta aggaagtata tctcatgtt tctaccatta taaatatattg tcttaaatat
960
cttacctatg atccaaatta taattacgat gatgaagatg aagatgaaaa tgcaatggat
1020
gctgatggtg gtgatgatga tgatcaaggg agtgatgatg aatacagtga tgatgatgac
1080
atgagttgga aagtgagacg tgcagctgag aagtgccttg atgctgtagt tagcacaagg
1140
catgaaatgc ttccagaatt ctacaagacc gtctctctg cactaatatc cagattttaa
1200
gagcgtgaag agaattgtaa ggcagatgtt tttcacgcat acctttctct tttgaagcaa
1260
actcgtcctg tacaaagttg gctatgtgac cctgatgcaa tggagcaggg agaaacacct
1320
ttaacaatgc ttcagagtca ggttcccaac attgttaaag ctcttcacaa acagatgaaa
1380
gaaaaaagtg tgaagacccg acagtgttgt tttaacatgt taactgagct ggtaaagtga
1440
ttacctgggg ccctaactca acacattcct gtacttgtag caggaatcat tttctcactg
1500
aatgataaat caagctcatc gaatttgaag atcgatgctt tgtcatgtct atacgtaatc
1560
ctctgtaacc attctcctca agtcttccat cctcacgttc aggccttggt tctccagtg
1620

gtggcttggtg ttggagaccc attttacaaa attacatctg aagcacttct tggtactcaa
1680
cagcttggtca aagtaattcg tccttttagat cagccttcct cgtttgatgc aactccttat
1740
atcaaagatc tattttacctg taccattaag agattaaaag cagctgacat tgatcaggaa
1800
gtcaaggaaa gggctatttc ctgtatggga caaattattt gcaaccttgg agacaatttg
1860
ggttctgact tgccataac acttcagatt ttcttggaga gactaaagaa tgaaattacc
1920
agggttaacta cagtaaaggc attgacactg attgctgggt cacctttgaa gatagatttg
1980
aggcctgttc tgggagaagg ggttcctatc cttgcttcat ttcttagaaa aaaccagaga
2040
gctttgaaac tgggtactct ttctgccctt gatattctaa taaaaaacta tagtgacagc
2100
ttgacagctg ccatgattga tgcagttcta gatgagctcc cacctcttat cagcgaaagt
2160
gatatgcatg ttccacaaat ggccatcagt ttctttacca ctttggcaaa agtatatccc
2220
tcctcccttt caaagataag tggatccatt ctcaatgaac ttattggact tgtgagatca
2280
cccttattgc aggggggagc tcttagtgcc atgctagact tttccaagc tctgggtgtc
2340
actggaacaa ataatttagg atacatggat ttgttgcgca tgetgactgg tccagtttac
2400
tctcagagca cagctcttac tcataagcag tcttattatt ccattgccaa atgtgtagct
2460
gcccttactc gagcatgccc taaagagggg ccagctgtag taggtcagtt tattcaagat
2520
gtcaagaact caaggctctac agattccatt cgtctcttag ctctactttc tcttggagaa
2580
gttgggcac c atattgactt aagtggacag ttggaactaa aatctgtaat actagaagct
2640
ttctcatctc ctagtgaaga agtcaaatca gctgcacct atgcattagg cagcattagt
2700
gtgggcaacc ttctgaata tctgccgttt gtcttgcaag aaataactag tcaacccaaa
2760
aggcagtatc ttttacttca ttcttgaag gaaattatta gctctgcac agtgggtggg
2820
cttaaaccat atgttgaaaa catctgggccc ttattactaa agcactgtga gtgtgcagag
2880
gaaggaacca gaaatgttgt tgetgaatgt ctaggaaaac tcaactctaat tgatccagaa
2940
actctccttc cacggcttaa ggggtacttg atatcaggct catcatatgc ccgaagctca
3000
gtgggttacg ctgtgaaatt tacaatttct gaccatccac aacctattga tccactgtta
3060
aagaactgca taggtgattt cctaaaaact ttggaagacc cagatttgaa tgtgagaaga
3120
gtagccttgg tcacatttaa ttcagcagca cataacaagc catcattaat aagggatcta
3180
ttggatactg ttcttcacac tctttacaat gaaacaaaag ttagaaagga gcttataaga
3240

gaggtagaaa tgggtccatt taaacatacg gttgatgatg gtctggatat tagaaaggca
3300
gcatttgagt gtatgtacac acttctagac agttgtcttg atagacttga tatctttgaa
3360
tttctaaatc atgttgaaga tggtttgaag gaccattatg atattaagat gctgacattt
3420
ttaatgttgg tgagactgtc taccctttgt ccaagtgcag tactgcagag gttggaccga
3480
cttgttgagc cattacgtgc aacatgtaca actaaggtaa aggcaaactc agtaaagcag
3540
gagtttgaag aacaagatga attaaagcga tctgccatga gagcagtagc agcactacta
3600
accattccag aagcagagaa gagtccactg atgagtgaat tccagtcaca gatcagttct
3660
aaccttgagc tggcggctat ctttgaaagt atccagaaag attcatcatc tactaacttg
3720
gaatcaatgg aactagtta gatgtttgtt caccatgggg accattacat atgaccatac
3780
aatgcactga attgacaggt taatcataag acatggaaag agaagtgtct aaaagcttca
3840
aaatgttcca ctttttttct cttcatggag actgtttgtt tggctttctt ccattgttgt
3900
ttttgtagca tttatttcag aaatgtgtat ttccataatc cagaggttgt aaaaccacta
3960
gtgttttagt gggtacagca acatttgaaa tggaaactaa aagttaggat tttatggagt
4020
atggagatag ggtccagtat ctatttaccg tgtaatgttt aggattaaaa tgttaaaatt
4080
ttgtgaccat gaatttcttt cttttataaa ttttctcatt taaaaatcaa aaatcttgca
4140
aaacaaaaac catgtttctt tttcttgtat aactttttgt tttcagcaac ataaattgat
4200
ttttagctgg cagacaagaa tatccatata agatttgtaa accatttcag agagtttggc
4260
aattttttaa agataataag gtatcatttt taagtatgaa aattaacaat atccctgttg
4320
cgcacactaa ttttgcagta gtaagtttac aaatatgtat cgtctgtaaa gcagcatgtg
4380
cagattattc ataatataga agttaaata agtatttagt caattttcag atatttattt
4440
ttgcacagaa aacacattat ctggagagaa agaaaggaga atttttgaga cttgggtttt
4500
cttaatgcca gtgtgaattt gcagatgttt tcagaaaatc aagtcacagt aacaatttgc
4560
cacttttttc tgttataaat cttcttactt aaattttgaa tatttagttt ttctcagtta
4620
cccatttggt tgtgtgtgat tccacttaga aattcttaa accagatttt tctttcatc
4680
cgtttgatg tctacattcc ttatcaaagg atataaatac tgtgtatgct tttgaatttt
4740
attttttaga aaattctgaa gccagctatc acaggtttgt tagctaataa tagtattttc
4800
ttttagttga gttaggtttt tccccatctc ctgtagagcg aatttacata ttgtattggg
4860

taagtgttca ctacttttcc tgattaaggg atctgtgctg gggaacaaag cttttgcagt
 4920
 accttatatt gtagttaaaa ttttatttaa catatccttc agtgagctca tttcacactg
 4980
 tagcctcttc cttaaaattt gtggtgctcc tgtaacagta agaactaatt ctgaaataaa
 5040
 agacatctcc taatgtctgtg caaacatagt ttacatgtat tgaaggaggc agttgttaaa
 5100
 ttgagtgacc aatttaagca atcagatatt tgaaaactgc accctttagt tttgaaactg
 5160
 tgaattagaa acacttttcc tgctgtatta ctacctgctt taacatccaa atatacagt
 5220
 attttaaatg ataacatact gtggttatta gattaacagc ttgattttga atgttcagat
 5280
 gataatgcag aagacatcac ttctagtaag gattttgact agtgcattga tgttgaagtt
 5340
 ggtgccattht caaaatgtgg caggtgataa tcttttacca taatttgcatt aaaactgtaa
 5400
 tagaagttta ttttgagatg ttagtatatt atgtactatg catttctgtg gtatagatgt
 5460
 tgtggatata ttttaagtatt tgggtacatg gttttacaat aaattacaat actgcaggct
 5520
 ctaggactga acaggagact gacatgcata tgttgtgtga atgtcttagt tgggtaaagt
 5580
 taaatccaaa tacttcaact ggcaaaaaaa aa
 5612

<210> 3888

<211> 1230

<212> PRT

<213> Homo sapiens

<400> 3888

Met	Ala	Ser	Ala	Ser	Tyr	His	Ile	Ser	Asn	Leu	Leu	Glu	Lys	Met	Thr
1				5					10					15	
Ser	Ser	Asp	Lys	Asp	Phe	Arg	Phe	Met	Ala	Thr	Asn	Asp	Leu	Met	Thr
			20					25					30		
Glu	Leu	Gln	Lys	Asp	Ser	Ile	Lys	Leu	Asp	Asp	Asp	Ser	Glu	Arg	Lys
			35				40						45		
Val	Val	Lys	Met	Ile	Leu	Lys	Leu	Leu	Glu	Asp	Lys	Asn	Gly	Glu	Val
			50			55					60				
Gln	Asn	Leu	Ala	Val	Lys	Cys	Leu	Gly	Pro	Leu	Val	Ser	Lys	Val	Lys
65					70				75					80	
Glu	Tyr	Gln	Val	Glu	Thr	Ile	Val	Asp	Thr	Leu	Cys	Thr	Asn	Met	Leu
				85				90					95		
Ser	Asp	Lys	Glu	Gln	Leu	Arg	Asp	Ile	Ser	Ser	Ile	Gly	Leu	Lys	Thr
			100				105					110			
Val	Ile	Gly	Glu	Leu	Pro	Pro	Ala	Ser	Ser	Gly	Ser	Ala	Leu	Ala	Ala
			115				120					125			
Asn	Val	Cys	Lys	Lys	Ile	Thr	Gly	Arg	Leu	Thr	Ser	Ala	Ile	Ala	Lys
			130			135					140				
Gln	Glu	Asp	Val	Ser	Val	Gln	Leu	Glu	Ala	Leu	Asp	Ile	Met	Ala	Asp
145					150					155				160	
Met	Leu	Ser	Arg	Gln	Gly	Gly	Leu	Leu	Val	Asn	Phe	His	Pro	Ser	Ile

				165						170						175			
Leu	Thr	Cys	Leu	Leu	Pro	Gln	Leu	Thr	Ser	Pro	Arg	Leu	Ala	Val	Arg				
			180					185					190						
Lys	Arg	Thr	Ile	Ile	Ala	Leu	Gly	His	Leu	Val	Met	Ser	Cys	Gly	Asn				
			195				200					205							
Ile	Val	Phe	Val	Asp	Leu	Ile	Glu	His	Leu	Leu	Ser	Glu	Leu	Ser	Lys				
			210			215					220								
Asn	Asp	Ser	Met	Ser	Thr	Thr	Arg	Thr	Tyr	Ile	Gln	Cys	Ile	Ala	Ala				
225					230					235					240				
Ile	Ser	Arg	Gln	Ala	Gly	His	Arg	Ile	Gly	Glu	Tyr	Leu	Glu	Lys	Ile				
				245					250					255					
Ile	Pro	Leu	Val	Val	Lys	Phe	Cys	Asn	Val	Asp	Asp	Asp	Glu	Leu	Arg				
			260					265					270						
Glu	Tyr	Cys	Ile	Gln	Ala	Phe	Glu	Ser	Phe	Val	Arg	Arg	Cys	Pro	Lys				
			275				280					285							
Glu	Val	Tyr	Pro	His	Val	Ser	Thr	Ile	Ile	Asn	Ile	Cys	Leu	Lys	Tyr				
			290			295					300								
Leu	Thr	Tyr	Asp	Pro	Asn	Tyr	Asn	Tyr	Asp	Asp	Glu	Asp	Glu	Asp	Glu				
305					310					315					320				
Asn	Ala	Met	Asp	Ala	Asp	Gly	Gly	Asp	Asp	Asp	Asp	Gln	Gly	Ser	Asp				
				325					330					335					
Asp	Glu	Tyr	Ser	Asp	Asp	Asp	Asp	Met	Ser	Trp	Lys	Val	Arg	Arg	Ala				
			340					345					350						
Ala	Ala	Lys	Cys	Leu	Asp	Ala	Val	Val	Ser	Thr	Arg	His	Glu	Met	Leu				
			355				360					365							
Pro	Glu	Phe	Tyr	Lys	Thr	Val	Ser	Pro	Ala	Leu	Ile	Ser	Arg	Phe	Lys				
			370			375					380								
Glu	Arg	Glu	Glu	Asn	Val	Lys	Ala	Asp	Val	Phe	His	Ala	Tyr	Leu	Ser				
385					390					395				400					
Leu	Leu	Lys	Gln	Thr	Arg	Pro	Val	Gln	Ser	Trp	Leu	Cys	Asp	Pro	Asp				
				405					410					415					
Ala	Met	Glu	Gln	Gly	Glu	Thr	Pro	Leu	Thr	Met	Leu	Gln	Ser	Gln	Val				
			420					425					430						
Pro	Asn	Ile	Val	Lys	Ala	Leu	His	Lys	Gln	Met	Lys	Glu	Lys	Ser	Val				
			435				440					445							
Lys	Thr	Arg	Gln	Cys	Cys	Phe	Asn	Met	Leu	Thr	Glu	Leu	Val	Asn	Val				
						455					460								
Leu	Pro	Gly	Ala	Leu	Thr	Gln	His	Ile	Pro	Val	Leu	Val	Pro	Gly	Ile				
465					470					475				480					
Ile	Phe	Ser	Leu	Asn	Asp	Lys	Ser	Ser	Ser	Ser	Asn	Leu	Lys	Ile	Asp				
				485					490					495					
Ala	Leu																		

595	600	605
Pro Asn Thr Leu Gln Ile Phe Leu Glu Arg Leu Lys Asn Glu Ile Thr		
610	615	620
Arg Leu Thr Thr Val Lys Ala Leu Thr Leu Ile Ala Gly Ser Pro Leu		
625	630	635
Lys Ile Asp Leu Arg Pro Val Leu Gly Glu Gly Val Pro Ile Leu Ala		
	645	650
Ser Phe Leu Arg Lys Asn Gln Arg Ala Leu Lys Leu Gly Thr Leu Ser		
	660	665
Ala Leu Asp Ile Leu Ile Lys Asn Tyr Ser Asp Ser Leu Thr Ala Ala		
	675	680
Met Ile Asp Ala Val Leu Asp Glu Leu Pro Pro Leu Ile Ser Glu Ser		
690	695	700
Asp Met His Val Ser Gln Met Ala Ile Ser Phe Leu Thr Thr Leu Ala		
705	710	715
Lys Val Tyr Pro Ser Ser Leu Ser Lys Ile Ser Gly Ser Ile Leu Asn		
	725	730
Glu Leu Ile Gly Leu Val Arg Ser Pro Leu Leu Gln Gly Gly Ala Leu		
	740	745
Ser Ala Met Leu Asp Phe Phe Gln Ala Leu Val Val Thr Gly Thr Asn		
	755	760
Asn Leu Gly Tyr Met Asp Leu Leu Arg Met Leu Thr Gly Pro Val Tyr		
770	775	780
Ser Gln Ser Thr Ala Leu Thr His Lys Gln Ser Tyr Tyr Ser Ile Ala		
785	790	795
Lys Cys Val Ala Ala Leu Thr Arg Ala Cys Pro Lys Glu Gly Pro Ala		
	805	810
Val Val Gly Gln Phe Ile Gln Asp Val Lys Asn Ser Arg Ser Thr Asp		
	820	825
Ser Ile Arg Leu Leu Ala Leu Leu Ser Leu Gly Glu Val Gly His His		
	835	840
Ile Asp Leu Ser Gly Gln Leu Glu Leu Lys Ser Val Ile Leu Glu Ala		
850	855	860
Phe Ser Ser Pro Ser Glu Glu Val Lys Ser Ala Ala Ser Tyr Ala Leu		
865	870	875
Gly Ser Ile Ser Val Gly Asn Leu Pro Glu Tyr Leu Pro Phe Val Leu		
	885	890
Gln Glu Ile Thr Ser Gln Pro Lys Arg Gln Tyr Leu Leu Leu His Ser		
	900	905
Leu Lys Glu Ile Ile Ser Ser Ala Ser Val Val Gly Leu Lys Pro Tyr		
	915	920
Val Glu Asn Ile Trp Ala Leu Leu Leu Lys His Cys Glu Cys Ala Glu		
930	935	940
Glu Gly Thr Arg Asn Val Ala Glu Cys Leu Gly Lys Leu Thr Leu		
945	950	955
Ile Asp Pro Glu Thr Leu Leu Pro Arg Leu Lys Gly Tyr Leu Ile Ser		
	965	970
Gly Ser Ser Tyr Ala Arg Ser Ser Val Val Thr Ala Val Lys Phe Thr		
	980	985
Ile Ser Asp His Pro Gln Pro Ile Asp Pro Leu Leu Lys Asn Cys Ile		
	995	1000
Gly Asp Phe Leu Lys Thr Leu Glu Asp Pro Asp Leu Asn Val Arg Arg		
1010	1015	1020
Val Ala Leu Val Thr Phe Asn Ser Ala Ala His Asn Lys Pro Ser Leu		

1025		1030		1035		1040
Ile Arg Asp Leu Leu Asp Thr Val Leu Pro His Leu Tyr Asn Glu Thr						
	1045		1050		1055	
Lys Val Arg Lys Glu Leu Ile Arg Glu Val Glu Met Gly Pro Phe Lys						
	1060		1065		1070	
His Thr Val Asp Asp Gly Leu Asp Ile Arg Lys Ala Ala Phe Glu Cys						
	1075		1080		1085	
Met Tyr Thr Leu Leu Asp Ser Cys Leu Asp Arg Leu Asp Ile Phe Glu						
	1090		1095		1100	
Phe Leu Asn His Val Glu Asp Gly Leu Lys Asp His Tyr Asp Ile Lys						
1105		1110		1115		1120
Met Leu Thr Phe Leu Met Leu Val Arg Leu Ser Thr Leu Cys Pro Ser						
	1125		1130		1135	
Ala Val Leu Gln Arg Leu Asp Arg Leu Val Glu Pro Leu Arg Ala Thr						
	1140		1145		1150	
Cys Thr Thr Lys Val Lys Ala Asn Ser Val Lys Gln Glu Phe Glu Lys						
	1155		1160		1165	
Gln Asp Glu Leu Lys Arg Ser Ala Met Arg Ala Val Ala Ala Leu Leu						
	1170		1175		1180	
Thr Ile Pro Glu Ala Glu Lys Ser Pro Leu Met Ser Glu Phe Gln Ser						
1185		1190		1195		1200
Gln Ile Ser Ser Asn Pro Glu Leu Ala Ala Ile Phe Glu Ser Ile Gln						
	1205		1210		1215	
Lys Asp Ser Ser Ser Thr Asn Leu Glu Ser Met Asp Thr Ser						
	1220		1225		1230	

<210> 3889

<211> 556

<212> DNA

<213> Homo sapiens

<400> 3889

gctctgccgg gccctcgct ggaccagtgg caccgatcag ctggggagga agaggatggc
60

ccagtcctga cggatgagca ggtcccgaat ccaggccatg aagcccatga ccaaggagga
120

tgggatgcc gccagagcat catccgcaag gtggtggacc ctgagacggg gcgcaccagg
180

cttattaagg gagatggcga ggtcctagag gaaatcgtaa ccaaagaacg acacagagag
240

atcaacaagc aagccaccgc aggggactgc ctggccttcc agatgcgagc tgggttgctt
300

ccctgagggc ccccgctggc caaggcctgt ggacgacgct ggcggcccag cctgggcagg
360

tttcaggggtg ccagtgggaa gcctgatggg tgctggtggc ctttcccccg tggattggtc
420

tctggcccag ccagtcctt tctcaggggc aggggggtga ggttggggtc accggcctgc
480

ttggcaccac catctgaaag agcagcactt ctcagctatt aaaggccccc tggatagaca
540

aaaaaaaaa aaaaaa

556

<210> 3890

<211> 101
 <212> PRT
 <213> Homo sapiens

<400> 3890

Ala	Leu	Pro	Gly	Pro	Ser	Leu	Asp	Gln	Trp	His	Arg	Ser	Ala	Gly	Glu
1				5					10					15	
Glu	Glu	Asp	Gly	Pro	Val	Leu	Thr	Asp	Glu	Gln	Val	Pro	Asn	Pro	Gly
			20					25				30			
His	Glu	Ala	His	Asp	Gln	Gly	Gly	Trp	Asp	Ala	Arg	Gln	Ser	Ile	Ile
		35				40					45				
Arg	Lys	Val	Val	Asp	Pro	Glu	Thr	Gly	Arg	Thr	Arg	Leu	Ile	Lys	Gly
	50					55					60				
Asp	Gly	Glu	Val	Leu	Glu	Ile	Val	Thr	Lys	Glu	Arg	His	Arg	Glu	
65				70				75					80		
Ile	Asn	Lys	Gln	Ala	Thr	Arg	Gly	Asp	Cys	Leu	Ala	Phe	Gln	Met	Arg
			85					90						95	
Ala	Gly	Leu	Leu	Pro											
			100												

<210> 3891
 <211> 1687
 <212> DNA
 <213> Homo sapiens

<400> 3891

```

ncctaggcta cacagaccgt gtggtgcgag ctttccgctg ggaggagcta ggtgagggtc
60
ctgaacatct ggccgtatcc acaacaagaa tgtctccact cacctaattg gcaacatcaa
120
acaggccacg gcactgagag tagtggctct ggctctttg ccctgtgcac cctggatggg
180
acactgaagc tcatggaaga aatggaagaa gcagacaagc tgctgtggtc agtgcagggtg
240
gatcaccagc tctttgccct ggagaaactg gatgtcaccg gcaacgggca tgaggaggta
300
gttgcatgcg cctgggatgg acagacatat atcattgac acaaccgcac cgtcgtccgc
360
ttccaagtgg atgaaaatat ccgtgccttc tgtgcaggcc tgtacgcctg caaagagggc
420
cgcaacagcc cctgcctcgt atatgtcact ttcaaccaga agatctatgt gtactgggag
480
gtgcagctgg agcggtatga gtctaccaat ctggtgaaac tgctggagac caagccgagt
540
accacagcct gctgcaggag ctgggcgtgg atcctgacga cctccctgtg actcgtgccc
600
tgcttcacca aacgctctac catccagacc agccaccaca gtgtgctccc tcaagcctcc
660
aggatcccac ctagctgtac ttgcctcata gctggtgaag gattcttctg aacccccacc
720
ctacccccta aaggatatctg tggtattggc aggataggga atatgcatta cagaaatgca
780
ggatttgact ctgggcatga aagatggcag cagccctagg gtgaccgtga actatagacc
840

```

tcgcagtctt ttccggtgaaa gaagagacaa gttgaccctc tgcccatttc cttatggacc
 900
 tcacccatca tgccagcagg gtcataggac ctggccttgt tccaaatcat ctgggacatg
 960
 acccactccc cactgtcact gtgttgaaaa cagagacttg tttgtgtggc cccaacaccc
 1020
 ataaggaaac caggcttttag gcccagggga gcagtggagg taagggtcc accccatctt
 1080
 aagctctgtc ttccgtggca caattccaag ttcttgacgt tagtaattgt taaaggaatg
 1140
 gcaaaactgtt ttgttttgaa ggatctttct acagtctggt cttacccatg ttcctagcaa
 1200
 ccctgagatg attttcttcc atttaccaaa gcagccgggt cagtgccttc tcacgttgcc
 1260
 gtattcttca ggtattagtc agcttcagaa gccctgctcc cttttttcca cccaccatt
 1320
 cccccataaa acagcttatt gtctccaaga caatagacat ttaaaatgtg atgcggggtt
 1380
 atgatccaga ccacaatcag aattatatct tgggtcattt atgtgccgtc tgttcttgat
 1440
 tctctatgct ctaaactcgt gtttttcaaa ctgtgggtgc agtcctttgg tggattatgg
 1500
 ccagcatttt ttaaataggt agaatagaat aaagtaaaat agaaaatagc agagtacatt
 1560
 gctctcagt taggtaagta ttgttttggt agtcatatgt gcattgtgtg actgagtgcc
 1620
 atgtaaaatg tattcctgct gtggtaagct gtggtcgagg agtttgaaag ccattgcttt
 1680
 caaatcc
 1687

<210> 3892

<211> 179

<212> PRT

<213> Homo sapiens

<400> 3892

Val	Arg	Val	Leu	Asn	Ile	Trp	Pro	Tyr	Pro	Gln	Gln	Glu	Cys	Leu	His
1				5					10					15	
Ser	Pro	Asn	Trp	Gln	His	Gln	Thr	Gly	His	Gly	Thr	Glu	Ser	Ser	Gly
		20						25					30		
Ser	Gly	Leu	Phe	Ala	Leu	Cys	Thr	Leu	Asp	Gly	Thr	Leu	Lys	Leu	Met
		35					40					45			
Glu	Glu	Met	Glu	Glu	Ala	Asp	Lys	Leu	Leu	Trp	Ser	Val	Gln	Val	Asp
	50					55					60				
His	Gln	Leu	Phe	Ala	Leu	Glu	Lys	Leu	Asp	Val	Thr	Gly	Asn	Gly	His
65				70						75				80	
Glu	Glu	Val	Val	Ala	Cys	Ala	Trp	Asp	Gly	Gln	Thr	Tyr	Ile	Ile	Asp
			85					90					95		
His	Asn	Arg	Thr	Val	Val	Arg	Phe	Gln	Val	Asp	Glu	Asn	Ile	Arg	Ala
		100						105				110			
Phe	Cys	Ala	Gly	Leu	Tyr	Ala	Cys	Lys	Glu	Gly	Arg	Asn	Ser	Pro	Cys
		115					120					125			
Leu	Val	Tyr	Val	Thr	Phe	Asn	Gln	Lys	Ile	Tyr	Val	Tyr	Trp	Glu	Val

130		135		140
Gln Leu Glu Arg Met Glu Ser Thr Asn Leu Val Lys Leu Leu Glu Thr				
145		150		155
Lys Pro Ser Thr Thr Ala Cys Cys Arg Ser Trp Ala Trp Ile Leu Thr				
	165		170	175
Thr Ser Leu				

<210> 3893
 <211> 1591
 <212> DNA
 <213> Homo sapiens

<400> 3893
 cgcggttctgc agaagttaga tgacgatgga ttgccgttta taggagcaaa actgcagtac
 60
 ggagatccgt attacagcta cctcaacctc aacaccgggg aaagttttgt gatgtactat
 120
 aagagtaaag aaaattgtgt tgtggataac atcaaagtgt gcagtaatga cactgggagt
 180
 ggaaaattca agtgtgtttg catcactatg agagtgcctc ggaaccaaac tatcggagat
 240
 aaatttgcca gtcgccatgg gcagaagggc attttaagca gattgtggcc ggctgaggac
 300
 atgcctttta ctgagagtgg gatgggtcca gacattctgt tcaatcccca tggttttcca
 360
 tcccgcatga ccattgggat gttaattgag agtatggcgg ggaagtctgc agctttgcat
 420
 ggtctctgcc atgatgctac acccttcac tctcagagg agaactcggc cttagaatac
 480
 tttggtgaga tgttaaaggc tgctggctac aatttctatg gcaccgagag gttatatagt
 540
 ggcacatggt ggctagaact ggaagcagac atcttcatag gagtggttta ttatcagcgc
 600
 ttacgccata tggcttcaga caaatttcaa gtaaggacaa ctggagcccc agacagagtc
 660
 accaaccagc ctattggggg aagaaatgtc cagggtggaa tccgttttgg ggagatggaa
 720
 cgggatgcgc ttttagctca tggtagatct tttctccttc atgaccgcct cttcaactgc
 780
 tcagatcggg cggtagccca tgtgtgtgtg aagtgtggca gtttactctc tccactgttg
 840
 gagaagccac ccccttcttg gtctgccatg cgcaacagaa aatacaactg tactctgtgt
 900
 agtcgcagtg acactatcga tactgtttct gtgccttatg ttttccgga tttgtagct
 960
 gaactggcag ctatgaacat caaagtgaaa ctggatgttg ttttaactga tgttgacctt
 1020
 ttggattaag aggactatca gattaaagca aaatgtaatt ttaattcaat gaagatatca
 1080
 ttaccaggtt actcttgaga tttttcaacg gtgttagaac tctcaaccaa gacctgaaaa
 1140
 ccaagtatgc aagggttctg aatctctctg gtagattaac tattgacaat gattttctgt
 1200

tatctttggt caaaaagttc atgtcttctc aaaatatgaa atattgataa atggaagagc
 1260
 atacggtgac aagtctcctt tccaacccca gggtccctac accctgctct cagcaggcag
 1320
 tgagtgtcac acacctgtta atccatcttg agcaggacag tactatacaa atagaatgca
 1380
 agctgtaatg taattttata ttttcttata gccacgttga agtaaaaaa aacagggtaca
 1440
 gtgtttttta ccagctttat agaagtacag ttgttacata tttaatgaat acaatttgat
 1500
 gggcttgact atatgcacac acctttgata ccatcaccac aatcagggtta ataaacatac
 1560
 ctgtcatctc caaaaaaaaa aaaaaaaaaa a
 1591

<210> 3894

<211> 334

<212> PRT

<213> Homo sapiens

<400> 3894

Arg	Val	Leu	Gln	Lys	Leu	Asp	Asp	Asp	Gly	Leu	Pro	Phe	Ile	Gly	Ala
1				5					10					15	
Lys	Leu	Gln	Tyr	Gly	Asp	Pro	Tyr	Tyr	Ser	Tyr	Leu	Asn	Leu	Asn	Thr
		20						25				30			
Gly	Glu	Ser	Phe	Val	Met	Tyr	Tyr	Lys	Ser	Lys	Glu	Asn	Cys	Val	Val
		35					40					45			
Asp	Asn	Ile	Lys	Val	Cys	Ser	Asn	Asp	Thr	Gly	Ser	Gly	Lys	Phe	Lys
	50					55					60				
Cys	Val	Cys	Ile	Thr	Met	Arg	Val	Pro	Arg	Asn	Pro	Thr	Ile	Gly	Asp
65					70					75				80	
Lys	Phe	Ala	Ser	Arg	His	Gly	Gln	Lys	Gly	Ile	Leu	Ser	Arg	Leu	Trp
			85					90						95	
Pro	Ala	Glu	Asp	Met	Pro	Phe	Thr	Glu	Ser	Gly	Met	Val	Pro	Asp	Ile
			100					105					110		
Leu	Phe	Asn	Pro	His	Gly	Phe	Pro	Ser	Arg	Met	Thr	Ile	Gly	Met	Leu
		115					120					125			
Ile	Glu	Ser	Met	Ala	Gly	Lys	Ser	Ala	Ala	Leu	His	Gly	Leu	Cys	His
	130					135					140				
Asp	Ala	Thr	Pro	Phe	Ile	Phe	Ser	Glu	Glu	Asn	Ser	Ala	Leu	Glu	Tyr
145					150					155				160	
Phe	Gly	Glu	Met	Leu	Lys	Ala	Ala	Gly	Tyr	Asn	Phe	Tyr	Gly	Thr	Glu
			165					170					175		
Arg	Leu	Tyr	Ser	Gly	Ile	Ser	Gly	Leu	Glu	Leu	Glu	Ala	Asp	Ile	Phe
		180						185					190		
Ile	Gly	Val	Val	Tyr	Tyr	Gln	Arg	Leu	Arg	His	Met	Val	Ser	Asp	Lys
	195					200					205				
Phe	Gln	Val	Arg	Thr	Thr	Gly	Ala	Arg	Asp	Arg	Val	Thr	Asn	Gln	Pro
	210					215					220				
Ile	Gly	Gly	Arg	Asn	Val	Gln	Gly	Gly	Ile	Arg	Phe	Gly	Glu	Met	Glu
225				230						235				240	
Arg	Asp	Ala	Leu	Leu	Ala	His	Gly	Thr	Ser	Phe	Leu	Leu	His	Asp	Arg
			245					250					255		
Leu	Phe	Asn	Cys	Ser	Asp	Arg	Ser	Val	Ala	His	Val	Cys	Val	Lys	Cys

	260		265		270										
Gly	Ser	Leu	Leu	Ser	Pro	Leu	Leu	Glu	Lys	Pro	Pro	Pro	Ser	Trp	Ser
	275		280		285										
Ala	Met	Arg	Asn	Arg	Lys	Tyr	Asn	Cys	Thr	Leu	Cys	Ser	Arg	Ser	Asp
	290		295		300										
Thr	Ile	Asp	Thr	Val	Ser	Val	Pro	Tyr	Val	Phe	Arg	Tyr	Phe	Val	Ala
305			310		315									320	
Glu	Leu	Ala	Ala	Met	Asn	Ile	Lys	Val	Lys	Leu	Asp	Val	Val		
			325		330										

<210> 3895

<211> 1227

<212> DNA

<213> Homo sapiens

<400> 3895

```

aagactttgc gagtggtagt ctatgaagaa gaggaagagg atggcaccct gaaacagcac
60
aaagaagcca agcgcttcga aatcgctagg tctcaacctg aagacacccc tgaaaacaca
120
gtgaggaggg aagagcagcc cagcattgag agtacatctc cgatttcaag aactgatgaa
180
attagaaaaa acacctacag aacattggat agcctggagc agaccattaa acagctcgaa
240
aatacaatca gtgaaatgag tcccaaagcc ctagttagata cctcatgttc ttccaacaga
300
gattctgttg caagttcatc ccacatagcc caagaggcct ctccccgacc cttgctagtt
360
ccggatgaag gtccactgac cctagagccc cctacgtcga taccttcagc ttcacgtaag
420
ggctccagcg gggccccaca gacgagcagg atgcctgtcc ccatgagtgc caagaacaga
480
cccggaaccc tggacaaacc cggcaagcag tccaaactgc aggatccccg ccaatatcgt
540
caggctaata gaagtgctaa gaaatctggt ggggacttta agcctacttc cccctcctta
600
cctgcttcta agattccagc cttttctccc agctctggga aaagcagttc tctgccctct
660
tctagtgggt acagctctaa cctccctaata ccacctgcta ctaaaccatc gattgcttct
720
aaccctctca gccccaaac aggaccacct gctcactctg cctccctcat cccttctgtc
780
tctaattggt ctttgaagtt tcagagcctc actcatacag gtaaagggtc ccatctttca
840
ttctcaccgc agagtcaaaa tggccgagca cccctcctt tgtcattttc ctctccct
900
ccttctcctg cctcctccgt ctactgaat caaggtgcc aaggcaccag gaccatccat
960
actcccagcc tcaccagcta caaggcacag aatggaagtt caagcaaagc caccatcc
1020
acagcaaaag aaacctctta aaggtaaat cctattaggc acaagtcgga gttacattta
1080
aaaaaaatta acagtctaca acaactgttt tcacaagaga atgtaacata ttgctgtatc
1140

```

gtttgaggct taatgctaaa tatgtgctaa atactggatt aatagatttc agtaaagctc
 1200
 gttcaaaaaa aaaaaaaaaa aaaaaaa
 1227

<210> 3896

<211> 346

<212> PRT

<213> Homo sapiens

<400> 3896

Lys	Thr	Leu	Arg	Val	Val	Tyr	Glu	Glu	Glu	Glu	Glu	Asp	Gly	Thr
1				5				10					15	
Leu	Lys	Gln	His	Lys	Glu	Ala	Lys	Arg	Phe	Glu	Ile	Ala	Arg	Ser
			20					25					30	Gln
Pro	Glu	Asp	Thr	Pro	Glu	Asn	Thr	Val	Arg	Arg	Gln	Glu	Gln	Pro
			35				40					45		Ser
Ile	Glu	Ser	Thr	Ser	Pro	Ile	Ser	Arg	Thr	Asp	Glu	Ile	Arg	Lys
			50				55				60			Asn
Thr	Tyr	Arg	Thr	Leu	Asp	Ser	Leu	Glu	Gln	Thr	Ile	Lys	Gln	Leu
65					70				75					80
Asn	Thr	Ile	Ser	Glu	Met	Ser	Pro	Lys	Ala	Leu	Val	Asp	Thr	Ser
				85					90				95	Cys
Ser	Ser	Asn	Arg	Asp	Ser	Val	Ala	Ser	Ser	Ser	His	Ile	Ala	Gln
			100					105					110	Glu
Ala	Ser	Pro	Arg	Pro	Leu	Leu	Val	Pro	Asp	Glu	Gly	Pro	Thr	Ala
			115				120					125		Leu
Glu	Pro	Pro	Thr	Ser	Ile	Pro	Ser	Ala	Ser	Arg	Lys	Gly	Ser	Ser
			130				135					140		Gly
Ala	Pro	Gln	Thr	Ser	Arg	Met	Pro	Val	Pro	Met	Ser	Ala	Lys	Asn
145					150					155				160
Pro	Gly	Thr	Leu	Asp	Lys	Pro	Gly	Lys	Gln	Ser	Lys	Leu	Gln	Asp
				165					170				175	Pro
Arg	Gln	Tyr	Arg	Gln	Ala	Asn	Gly	Ser	Ala	Lys	Lys	Ser	Gly	Gly
				180				185					190	Asp
Phe	Lys	Pro	Thr	Ser	Pro	Ser	Leu	Pro	Ala	Ser	Lys	Ile	Pro	Ala
			195				200					205		Leu
Ser	Pro	Ser	Ser	Gly	Lys	Ser	Ser	Ser	Leu	Pro	Ser	Ser	Ser	Gly
			210				215				220			Asp
Ser	Ser	Asn	Leu	Pro	Asn	Pro	Pro	Ala	Thr	Lys	Pro	Ser	Ile	Ala
225					230					235				240
Asn	Pro	Leu	Ser	Pro	Gln	Thr	Gly	Pro	Pro	Ala	His	Ser	Ala	Ser
				245					250				255	Leu
Ile	Pro	Ser	Val	Ser	Asn	Gly	Ser	Leu	Lys	Phe	Gln	Ser	Leu	Thr
				260				265					270	His
Thr	Gly	Lys	Gly	His	His	Leu	Ser	Phe	Ser	Pro	Gln	Ser	Gln	Asn
			275				280					285		Gly
Arg	Ala	Pro	Pro	Pro	Leu	Ser	Phe	Ser	Ser	Ser	Pro	Pro	Ser	Pro
			290			295					300			Ala
Ser	Ser	Val	Ser	Leu	Asn	Gln	Gly	Ala	Lys	Gly	Thr	Arg	Thr	Ile
305					310					315				320
Thr	Pro	Ser	Leu	Thr	Ser	Tyr	Lys	Ala	Gln	Asn	Gly	Ser	Ser	Ser
				325					330				335	Lys
Ala	Thr	Pro	Ser	Thr	Ala	Lys	Glu	Thr	Ser					

340

345

<210> 3897

<211> 366

<212> DNA

<213> Homo sapiens

<400> 3897

gccctgtggt ccggtccaga ccagggtgag gcatggagga ggctctgcac agccatttgc
 60
 agctcagcca gcaccgggtg atggcagga ggcctgggct tctgcactgg cttctggcct
 120
 cttctgggca cccacgcttt gtccatgaat ggaaagcaat gctgacggct gcccaatgtg
 180
 tccaggacgt ttctgaaact cctgttcctc tccccgtccc tctctctgtc ccactgtcca
 240
 cctcagtac ctctctctt cgtggctctc accccacact ctgccactgc cacattttcc
 300
 tctgcgcccc gcctctgcct ccacctgaaa ctttcctgga aatctcaaaa tgtaattcca
 360
 ggtccc
 366

<210> 3898

<211> 111

<212> PRT

<213> Homo sapiens

<400> 3898

Met	Glu	Glu	Ala	Leu	His	Ser	His	Leu	Gln	Leu	Ser	Gln	His	Arg	Val
1				5				10					15		
Met	Ala	Gly	Arg	Pro	Gly	Leu	Leu	His	Trp	Leu	Leu	Ala	Ser	Ser	Gly
			20					25					30		
His	Pro	Arg	Phe	Val	His	Glu	Trp	Lys	Ala	Met	Leu	Thr	Ala	Ala	Gln
			35				40					45			
Cys	Val	Gln	Asp	Val	Ser	Glu	Thr	Pro	Val	Pro	Leu	Pro	Val	Pro	Leu
			50				55				60				
Ser	Val	Pro	Leu	Ser	Thr	Ser	Val	Thr	Ser	Ser	Leu	Arg	Gly	Ser	His
			65				70				75				80
Pro	Thr	Leu	Cys	His	Cys	His	Ile	Phe	Leu	Cys	Ala	Gln	Pro	Leu	Pro
			85				90						95		
Pro	Pro	Glu	Thr	Phe	Leu	Glu	Ile	Ser	Lys	Cys	Asn	Ser	Arg	Ser	
			100				105						110		

<210> 3899

<211> 1092

<212> DNA

<213> Homo sapiens

<400> 3899

ngaaacggta accagccctg ggaagcccg c aagaggcctc agcgggtggcc gtccgagcgc
 60
 cgagaggtga ggggtgcccc gcctcacctg cagagggggc gttccgggct cgaacccggc
 120

accttccgga aaatggcggc tgccaggccc agcctgggccc gagtcctccc aggatcctct
 180
 gtccctgttcc tgtgtgacat gcaggagaag ttccgccaca acatcgcccta cttccacag
 240
 atcgtctcag tggctgcccc catgctcaag gtggccccgc tgcttgaggt gccagtcag
 300
 ctgacggagc agtaccacaca aggcctgggc cccacggtgc ccgagctggg gactngaggg
 360
 ccttcggccg ctggccaaga cctgcttcag catggtgcct gcctgcagca ggagctggac
 420
 agtcggcccc agctgcgctc tgtgctgctc tgtggcattg aggcacaggc ctgcatcttg
 480
 aacacgaccc tggacctcct agaccggggg ctgcaggtcc atgtggtggt ggacgcctgc
 540
 tcctcacgca gccaggtgga ccggctggtg gctctggccc gcatgagaca gagtgggtgcc
 600
 ttctctcca ccagcgaagg gctcattctg cagcttgtgg gcgatgccgt ccacccccag
 660
 ttcaaggaga tccagaaact catcaaggag cccgccccag acagcggact gctgggcctc
 720
 ttccaaggcc agaactccct cctccactga actccaaccc tgccttgagg gaagaccacc
 780
 ctctgtcac ccggacctca gtggaagccc gttcccccca tcctggatc ccaagagtgg
 840
 tgcatccac caggagtgcc gccccttgt gggggggggc aggggtgctgc cttccattg
 900
 gacagctgct cccggaatg caaatgagac tcctggaaac tgggtgggaa ttggctgagc
 960
 caagatggag gcggggctcg gccccgggcc acttcacggg gcgggaaggg gaggggaaga
 1020
 agagtctcag actgtgggac acggactcgc agaataaaca tatatgtggc tgtgaaaaaa
 1080
 aaaaaaaaaa aa
 1092

<210> 3900

<211> 249

<212> PRT

<213> Homo sapiens

<400> 3900

Xaa	Asn	Gly	Asn	Gln	Pro	Trp	Glu	Ala	Arg	Lys	Arg	Pro	Gln	Arg	Trp
1			5						10					15	
Pro	Ser	Glu	Arg	Arg	Glu	Val	Arg	Val	Pro	Pro	Pro	His	Leu	Gln	Arg
			20					25					30		
Gly	Arg	Ser	Gly	Leu	Glu	Pro	Gly	Thr	Phe	Arg	Lys	Met	Ala	Ala	Ala
			35				40					45			
Arg	Pro	Ser	Leu	Gly	Arg	Val	Leu	Pro	Gly	Ser	Ser	Val	Leu	Phe	Leu
			50			55					60				
Cys	Asp	Met	Gln	Glu	Lys	Phe	Arg	His	Asn	Ile	Ala	Tyr	Phe	Pro	Gln
65					70					75				80	
Ile	Val	Ser	Val	Ala	Ala	Arg	Met	Leu	Lys	Val	Ala	Arg	Leu	Leu	Glu
				85					90					95	
Val	Pro	Val	Met	Leu	Thr	Glu	Gln	Tyr	Pro	Gln	Gly	Leu	Gly	Pro	Thr

```

      100      105      110
Val Pro Glu Leu Gly Thr Xaa Gly Pro Ser Ala Ala Gly Gln Asp Leu
      115      120      125
Leu Gln His Gly Ala Cys Leu Gln Gln Glu Leu Asp Ser Arg Pro Gln
      130      135      140
Leu Arg Ser Val Leu Leu Cys Gly Ile Glu Ala Gln Ala Cys Ile Leu
145      150      155      160
Asn Thr Thr Leu Asp Leu Leu Asp Arg Gly Leu Gln Val His Val Val
      165      170      175
Val Asp Ala Cys Ser Ser Arg Ser Gln Val Asp Arg Leu Val Ala Leu
      180      185      190
Ala Arg Met Arg Gln Ser Gly Ala Phe Leu Ser Thr Ser Glu Gly Leu
      195      200      205
Ile Leu Gln Leu Val Gly Asp Ala Val His Pro Gln Phe Lys Glu Ile
      210      215      220
Gln Lys Leu Ile Lys Glu Pro Ala Pro Asp Ser Gly Leu Leu Gly Leu
225      230      235      240
Phe Gln Gly Gln Asn Ser Leu Leu His
      245

```

<210> 3901

<211> 1287

<212> DNA

<213> Homo sapiens

<400> 3901

```

nncctagggg aggtgggagg ggagctgggg acagatggcc ttggtttggg agcatagcct
60
ctgatcagca tctctgtgtt tggacagaac ctgctgggac tacagaacat cccagggccg
120
ttcttcctgc aggtgtacca caccttcctc aggattgcag agaccagggt aggtgacgcc
180
gtcctggggc tggctctgcat gctgctgctg ctggtgctga agctgatgag ggaccacgtg
240
cctcccgtcc accccgagat gcccctgggt gtgcggctca gccgtgggct ggtctgggct
300
gccacgacag ctgcgaacgc cctggtggtc tccttcgcag ccctgggtgc gtactccttc
360
gaggtgactg gataccagcc ttctatccta acaggggaga cagctgaggg gctccctcca
420
gtccggatcc cgcccttctc agtgaccaca gccaacggga cgatctcctt caccgagatg
480
gtgcaggaca tgggagccgg gctggccgtg gtgcccctga tgggcctcct ggagagcatt
540
gcggtggcca aagccttcgc atctcagaat aattaccgca tcgatgccaa ccaggagctg
600
ctggccatcg gtctcaccia catgttgggc tccctcgtct cctcctacce ggtcacaggc
660
agctttggac ggacagccgt gaacgctcag tcgggggtgt gcaccccggc ggggggcctg
720
gtgacgggag tgctggtgct gctgtctctg gactacctga cctcactgtt ctactacatc
780
cccaagtctg ccctggctgc cgtcatcatc atggccgtgg ccccgctgtt cgacaccaag
840

```

atcttcagga cgctctggcg tgtaagagg ctggacctgc tgccctgtg cgtgaccttc
 900
 ctgctgtgct tctgggaggt gcagtacggc atcctggccg gggccctggt gtctctgctc
 960
 atgctcctgc actctgcagc caggcctgag accaagggtgt cagagggggcc ggttctggtc
 1020
 ctgcagccgg ccagcggcct gtccttcctt gtcctctgcc cccactccc tgctgttcag
 1080
 gacccaaga ccctgtcccc gacgtctctc agtccacaag gatgcaggca tctctgagt
 1140
 ggctggaccg tcctctgtgg gcctcagcca gtggtgctgc agcaaggggtg gtggtcccc
 1200
 acatatcact ccttcctgc ccctaaagtc cggttcctgt ttctgggggg ttgattttag
 1260
 gggagctaag ggctgtgag tcctagt
 1287

<210> 3902

<211> 312

<212> PRT

<213> Homo sapiens

<400> 3902

Met	Leu	Leu	Leu	Val	Leu	Lys	Leu	Met	Arg	Asp	His	Val	Pro	Pro
1				5				10					15	
Val	His	Pro	Glu	Met	Pro	Pro	Gly	Val	Arg	Leu	Ser	Arg	Gly	Leu
			20					25					30	Val
Trp	Ala	Ala	Thr	Thr	Ala	Arg	Asn	Ala	Leu	Val	Val	Ser	Phe	Ala
			35				40					45		Ala
Leu	Val	Ala	Tyr	Ser	Phe	Glu	Val	Thr	Gly	Tyr	Gln	Pro	Phe	Ile
			50				55				60			Leu
Thr	Gly	Glu	Thr	Ala	Glu	Gly	Leu	Pro	Pro	Val	Arg	Ile	Pro	Pro
65					70					75			80	Phe
Ser	Val	Thr	Thr	Ala	Asn	Gly	Thr	Ile	Ser	Phe	Thr	Glu	Met	Val
				85					90					Gln
Asp	Met	Gly	Ala	Gly	Leu	Ala	Val	Val	Pro	Leu	Met	Gly	Leu	Glu
			100					105					110	
Ser	Ile	Ala	Val	Ala	Lys	Ala	Phe	Ala	Ser	Gln	Asn	Asn	Tyr	Arg
			115				120					125		Ile
Asp	Ala	Asn	Gln	Glu	Leu	Leu	Ala	Ile	Gly	Leu	Thr	Asn	Met	Leu
			130				135					140		Gly
Ser	Leu	Val	Ser	Ser	Tyr	Pro	Val	Thr	Gly	Ser	Phe	Gly	Arg	Thr
145					150					155				Ala
Val	Asn	Ala	Gln	Ser	Gly	Val	Cys	Thr	Pro	Ala	Gly	Gly	Leu	Val
				165					170					Thr
Gly	Val	Leu	Val	Leu	Leu	Ser	Leu	Asp	Tyr	Leu	Thr	Ser	Leu	Phe
			180					185					190	Tyr
Tyr	Ile	Pro	Lys	Ser	Ala	Leu	Ala	Ala	Val	Ile	Ile	Met	Ala	Val
			195				200					205		Ala
Pro	Leu	Phe	Asp	Thr	Lys	Ile	Phe	Arg	Thr	Leu	Trp	Arg	Val	Lys
			210				215					220		Arg
Leu	Asp	Leu	Leu	Pro	Leu	Cys	Val	Thr	Phe	Leu	Leu	Cys	Phe	Trp
225					230					235				Glu
Val	Gln	Tyr	Gly	Ile	Leu	Ala	Gly	Ala	Leu	Val	Ser	Leu	Leu	Met
														Leu

```

                245                250                255
Leu His Ser Ala Ala Arg Pro Glu Thr Lys Val Ser Glu Gly Pro Val
                260                265                270
Leu Val Leu Gln Pro Ala Ser Gly Leu Ser Phe Pro Val Leu Cys Pro
                275                280                285
Pro Leu Pro Ala Val Gln Asp Pro Lys Thr Leu Ser Pro Thr Leu Ser
                290                295                300
Ser Pro Gln Gly Cys Arg His Leu
305                310

```

<210> 3903

<211> 598

<212> DNA

<213> Homo sapiens

<400> 3903

```

gcgcgcgcgg gagcgcgcgt ggtgctggcc tgccgcagcc aggagcgcgg ggaggcgggt
60
gccttcgacc tccgccagga gagtggaac aatgaggtca tcttcatggc cttggacttg
120
gccagtctgg cctcggtgcg ggcctttgcc actgccttcc tgagctctga gccacgggtg
180
gacatcctca tccacaatgc cggatcagc tctgtggcc ggaccctga ggcgtttaac
240
ctgctgcttc ggggtgaacca tatcggtccc tttctgctga cacatctgct gctgccttgc
300
ctgaaggcat gtgccctag ccgcgtggtg gtggtagcct cagctgccc cgtcgggga
360
cgtcttgact tcaaacgcct ggaccgccc gtggtgctgg cggcaggagc tgcggcatat
420
gctgacacta agctggctaa tgtactgttt gcccgggagc tcgccaacca gcttgaggcc
480
actggcgtca cctgctatgc agccaccca gggcctgtga actcggagct gttcctgcgc
540
catgttcctg gatggctgcg ccacttttg cgccattgg cttggctggt gccccggg
598

```

<210> 3904

<211> 199

<212> PRT

<213> Homo sapiens

<400> 3904

```

Ala Arg Arg Gly Ala Arg Val Val Leu Ala Cys Arg Ser Gln Glu Arg
1          5          10          15
Gly Glu Ala Ala Ala Phe Asp Leu Arg Gln Glu Ser Gly Asn Asn Glu
20          25          30
Val Ile Phe Met Ala Leu Asp Leu Ala Ser Leu Ala Ser Val Arg Ala
35          40          45
Phe Ala Thr Ala Phe Leu Ser Ser Glu Pro Arg Leu Asp Ile Leu Ile
50          55          60
His Asn Ala Gly Ile Ser Ser Cys Gly Arg Thr Arg Glu Ala Phe Asn
65          70          75          80
Leu Leu Leu Arg Val Asn His Ile Gly Pro Phe Leu Leu Thr His Leu

```

```

      85              90              95
Leu Leu Pro Cys Leu Lys Ala Cys Ala Pro Ser Arg Val Val Val Val
      100              105              110
Ala Ser Ala Ala His Cys Arg Gly Arg Leu Asp Phe Lys Arg Leu Asp
      115              120              125
Arg Pro Val Val Leu Ala Ala Gly Ala Ala Ala Tyr Ala Asp Thr Lys
      130              135              140
Leu Ala Asn Val Leu Phe Ala Arg Glu Leu Ala Asn Gln Leu Glu Ala
      145              150              155              160
Thr Gly Val Thr Cys Tyr Ala Ala His Pro Gly Pro Val Asn Ser Glu
      165              170              175
Leu Phe Leu Arg His Val Pro Gly Trp Leu Arg Pro Leu Leu Arg Pro
      180              185              190
Leu Ala Trp Leu Val Pro Arg
      195

```

<210> 3905
 <211> 370
 <212> DNA
 <213> Homo sapiens

```

<400> 3905
ggatcctctg agctgcgctc ggccttctcg gcggcacgca ccacccccct ggagggcacg
60
tcggagatgg cggtgacctt cgacaaggtg tacgtgaaca tcgggggcga cttegatgtg
120
gccaccggcc agtttcgctg ccgcgtgccc ggcgcctact tcttctcctt cacggctggc
180
aaggccccgc acaagagccc gtcggtgatg ctggtgcgaa accgcgacga ggtgcaggcg
240
ctggccttcg acgagcagcg gcggccaggc gcgcggcgcg cagccagcca gagcgccatg
300
ctgcagctcg actacggcga cacagtgtgg ctgcggctgc atggcgcccc gcagtacgcg
360
ctaggcgcg
370

```

<210> 3906
 <211> 123
 <212> PRT
 <213> Homo sapiens

```

<400> 3906
Gly Ser Ser Glu Leu Arg Ser Ala Phe Ser Ala Ala Arg Thr Thr Pro
1      5      10      15
Leu Glu Gly Thr Ser Glu Met Ala Val Thr Phe Asp Lys Val Tyr Val
20     25     30
Asn Ile Gly Gly Asp Phe Asp Val Ala Thr Gly Gln Phe Arg Cys Arg
35     40     45
Val Pro Gly Ala Tyr Phe Phe Ser Phe Thr Ala Gly Lys Ala Pro His
50     55     60
Lys Ser Pro Ser Val Met Leu Val Arg Asn Arg Asp Glu Val Gln Ala
65     70     75     80
Leu Ala Phe Asp Glu Gln Arg Arg Pro Gly Ala Arg Arg Ala Ala Ser

```

	85		90		95										
Gln	Ser	Ala	Met	Leu	Gln	Leu	Asp	Tyr	Gly	Asp	Thr	Val	Trp	Leu	Arg
	100				105								110		
Leu	His	Gly	Ala	Pro	Gln	Tyr	Ala	Leu	Gly	Ala					
	115					120									

<210> 3907

<211> 4474

<212> DNA

<213> Homo sapiens

<400> 3907

```

gcgcgccgga accggaaccg acctgcgccg gaaccggaac ggagagcggg ttgccagggc
60
ccgaagaggg ctggctgcgg cggctctcgt cggctgtccg ttccttgctg gagaatttgg
120
ccacaaagag ctgccaaagat agctgggcca ggaagaaagc gccgcagccc tgaccagac
180
gctgttgccg accccggggc actctggctg tcgaccaagc ggctcaagat gtctggcggg
240
gccagtgcc aagggccaag gagagggccc ccaggactgg aggacaccac tagtaagaag
300
aagcagaagg atcgagcaaa ccaggagagc aaggatggag atcctaggaa agagacaggg
360
tctcgatatg ttgccagggc tggctctgaa cctctggcct caggatgatcc ttctgcctca
420
gcctcccattg cagctgggat cacaggctca cgccaccgta cccggctggt ctttccctca
480
tcgtcagggt cagcatccac tcctcaagag gagcagacca aagagggagc ttgtgaagac
540
cctcatgatc tcttggttac tccactcca gattgtgtgc tcgattggag gcagagtgca
600
gaagaggtga ttgtcaagct tcgtgtggga gtaggtcccc tgcagctgga ggatgtagat
660
gctgctttca cagatacaga ctgtgtgggt cggtttgag gtggtcagca gtggggtggg
720
gtcttctatg ctgagataaa aagctcttgt gctaaagtgc aaaccgcaa gggcagtctc
780
ctgcacctga cactgccccaa aaagggtgcct atgctcacgt ggccctccct cctggttgag
840
gctgatgaac agctttgcat accaccgtg aactccaaa cctgcctcct gggctcagag
900
gagaatttag cccctttggc aggagagaaa gcagtgcctc ccgggaatga ccagtcctc
960
ccagccatgg tccggagcag aaaccctggg aaagatgact gtgccaagga ggagatggca
1020
gtggcagcag atgctgcaac cttggtggat ggtaaagagc ccgagtcgat ggtgaacctg
1080
gcgtttgtca agaagactc gtatgagaag ggcccggtt cagtgggtgg gcacgtgtac
1140
gtgaaggaga tctgcaggga cacctcaaga gtacttttcc gtgagcagga cttcacgctc
1200
atcttcaga ccagggtgg aaacttcctg aggtgcacc cgggctgtgg gccccacacc
1260

```

accttccggtt ggcagggtgaa gctcaggaat ctgattgagc cagagcagtg caccttctgt
1320
ttcacggctt ctgcacatga catctgcctt cgtaagaggc agagtcagcg ctgggggggc
1380
ctggaggccc cggctgcacg agtgggtggt gcaaagggtt cctgtgccgac aggtccaacc
1440
cctctggatt caaccccacc aggagggtgct cccaccccc tgacaggcca ggaggaggcc
1500
cgggctgtgg agaaggataa atccaaggca cgatctgagg acacagggtt agacagtgtg
1560
gcaacccgca caccatgga gcatgtaacc ccaaagccag agacacacct ggcctcgccc
1620
aagcctacat gcatgggtgcc tcccatgccc cacagcccag ttagtggaga cagcgtggag
1680
gaggaggaag aggaagagaa gaagggtgtg ctgccaggct tctactggcct tgtcaattta
1740
ggcaacacct gcttcatgaa cagcgtcatt cagtctctgt ccaacactcg ggaactccgg
1800
gacttcttcc atgaccgctc ctttgaggct gagatcaact acaacaaccc actagggact
1860
ggtgggctc tggccattgg ctttgccgtg ctgcttcggg cgctgtggaa gggcacccac
1920
catgccttcc agccttccaa gttgaaggcc attgtggcga gtaaggccag ccagttcaca
1980
ggctatgcac agcatgatgc ccaggagtgc atggcttctc tgctggatgg gctgcacgag
2040
gacctgaatc gcattcagaa caagccctac acagagaccg tggattcaga tgggcggccc
2100
gatgagggtg tagctgagga agcatggcag cggcacaaga tgaggaatga ctctttcatc
2160
gtggacctat ttcaggggca gtacaagtcg aagctgggtg gccctgtgtg tgccaaggtc
2220
tccatcactt ttgaccggtt tctttatctg ccggtgccct tgccacaaaa gcaaaagggt
2280
ctccctgtct tttatcttgc ccgagagccc cacagcaagc ccatcaagtt cctggtgagc
2340
gtcagcaagg agaactccac tgcgagcgaa gtattggact ccctctctca gagtgttcat
2400
gtgaagcctg agaacctgcg ttggcgagg gtaattaaga atcgttttca tctgtgttc
2460
ctaccctccc actcactgga cactgtgtcc ccatctgata cgctcctctg ctttgagctg
2520
ctatcctcag agttggctaa ggagcgggta gtgggtgctag aggtgcaaca gcgccccag
2580
gtgcccagcg tcccatctc caagtgtgca gcctgccagc ggaagcaaca gtcggaggat
2640
gaaaagctga agcgtgtac ccggtgtac cgtgtgggtt actgcaacca gctctgccag
2700
aaaacccact ggcctgacca caagggcctc tgccgacctg agaacattgg ctacccttc
2760
ctggtcagtg tacctgcctc acgcctcact tatgcccgc tcgctcagtt gctagagggc
2820
tatgcccggg actctgtgag tgtattccag ccacccttc aaccaggccg catggccttg
2880

gagtctcaga gccctggctg caccacactg ctctccacag gtccctgga ggctggggac
2940
agcgagagag accccattca gccacctgag ctccagctgg tgaccctat ggctgagggg
3000
gacacagggc ttccccgggt gtgggcagcc cctgaccggg gtccctgtgcc cagcaccagt
3060
ggaatttctt ctgagatgct ggccagtggg cccattgagg ttggctcctt gccagctggc
3120
gagagggtgt cccgaccoga agctgctgtg cctgggtacc agcatccaag tgaagctatg
3180
aatgcccaca caccacagtt cttcatctat aaaattgatt catccaaccg agagcagcgg
3240
ctagaggaca aaggagacac cccactggag ctgggtgacg actgtagcct ggctctcgtc
3300
tggcggaaca atgagcgctt gcaggagttt gtgttggtag cctccaagga gctggaatgt
3360
gctgaggatc caggctctgc cggtagggct gcccgggccc gccacttcac cctggaccag
3420
tgccccaacc tcttcacacg gcctgaggtg ctggcaccgg aggaggcctg gtactgccc
3480
cagtgcacac agcaccgtga ggcctccaag cagctgttgc tatggcgctt gccaaatgtt
3540
ctcatcgtgc agctcaagcg cttctccttt cgtagtttta tctggcgtga caagatcaat
3600
gacttgggtg agttccctgt taggaacctg gacctgagca agttctgcat tggtcagaaa
3660
gaggagcagc tgcccagcta cgatctatat gctgtcatca accactatgg aggcattgatt
3720
ggtggccact acactgcctg tgcacgcctg cccaatgatc gtagcagtca gcgcagtgc
3780
gtgggctggc gcttgtttga tgacagcaca gtgacaacgg tagacgagag ccaggttgtg
3840
acgcgttatg cctatgtact cttctaccgc cggcggaact ctctgtgga gaggcccccc
3900
agggcaggtc actctgagca ccaccagac ctaggccctg cagctgaggc tgctgccagc
3960
caggcttccc ggatttggca ggagctggag gctgaggagg agccggtgcc tgaggggtct
4020
gggcccctgg gtccctgggg gcccacagac tgggtggggc ccctaccacg tggccctacc
4080
acaccagatg agggctgcct ccggtacttt gtccctggga ccgtggcggc tttggtggcc
4140
ctcgtgtca acgtgttcta tctctggta tcccagagtc gctggagatg agctcgctg
4200
caggcagctg ctgtgagctg gcctacctgc ctgccccagg ccatgcctgc ctttgttgtg
4260
gggaacacct ctgggctttg ggcctcagct tatgcatctg gtgggagagg gtggggagg
4320
tgtggccct gcaggggcag agtatcctag ggtgtgtatc catctggctg tctgtccatt
4380
catctgctg ctctgacct tggcctcagg cttggccctg cccaagctac ttctgtact
4440
taaaagtgtt aataaaacca gactattcag gcc
4474

<210> 3908

<211> 1373

<212> PRT

<213> Homo sapiens

<400> 3908

Ala Gly Cys Gly Gly Leu Ala Arg Leu Ser Val Pro Cys Trp Arg Ile
 1 5 10 15
 Trp Pro Gln Arg Ala Ala Lys Ile Ala Gly Pro Gly Arg Lys Arg Arg
 20 25 30
 Ser Pro Asp Pro Asp Ala Val Ala Asp Pro Gly Ala Leu Trp Leu Ser
 35 40 45
 Thr Lys Arg Leu Lys Met Ser Gly Gly Ala Ser Ala Thr Gly Pro Arg
 50 55 60
 Arg Gly Pro Pro Gly Leu Glu Asp Thr Thr Ser Lys Lys Lys Gln Lys
 65 70 75 80
 Asp Arg Ala Asn Gln Glu Ser Lys Asp Gly Asp Pro Arg Lys Glu Thr
 85 90 95
 Gly Ser Arg Tyr Val Ala Gln Ala Gly Leu Glu Pro Leu Ala Ser Gly
 100 105 110
 Asp Pro Ser Ala Ser Ala Ser His Ala Ala Gly Ile Thr Gly Ser Arg
 115 120 125
 His Arg Thr Arg Leu Phe Phe Pro Ser Ser Ser Gly Ser Ala Ser Thr
 130 135 140
 Pro Gln Glu Glu Gln Thr Lys Glu Gly Ala Cys Glu Asp Pro His Asp
 145 150 155 160
 Leu Leu Ala Thr Pro Thr Pro Glu Leu Leu Leu Asp Trp Arg Gln Ser
 165 170 175
 Ala Glu Glu Val Ile Val Lys Leu Arg Val Gly Val Gly Pro Leu Gln
 180 185 190
 Leu Glu Asp Val Asp Ala Ala Phe Thr Asp Thr Asp Cys Val Val Arg
 195 200 205
 Phe Ala Gly Gly Gln Gln Trp Gly Gly Val Phe Tyr Ala Glu Ile Lys
 210 215 220
 Ser Ser Cys Ala Lys Val Gln Thr Arg Lys Gly Ser Leu Leu His Leu
 225 230 235 240
 Thr Leu Pro Lys Lys Val Pro Met Leu Thr Trp Pro Ser Leu Leu Val
 245 250 255
 Glu Ala Asp Glu Gln Leu Cys Ile Pro Pro Leu Asn Ser Gln Thr Cys
 260 265 270
 Leu Leu Gly Ser Glu Glu Asn Leu Ala Pro Leu Ala Gly Glu Lys Ala
 275 280 285
 Val Pro Pro Gly Asn Asp Pro Val Ser Pro Ala Met Val Arg Ser Arg
 290 295 300
 Asn Pro Gly Lys Asp Asp Cys Ala Lys Glu Glu Met Ala Val Ala Ala
 305 310 315 320
 Asp Ala Ala Thr Leu Val Asp Gly Lys Glu Pro Glu Ser Met Val Asn
 325 330 335
 Leu Ala Phe Val Lys Asn Asp Ser Tyr Glu Lys Gly Pro Asp Ser Val
 340 345 350
 Val Val His Val Tyr Val Lys Glu Ile Cys Arg Asp Thr Ser Arg Val
 355 360 365
 Leu Phe Arg Glu Gln Asp Phe Thr Leu Ile Phe Gln Thr Arg Asp Gly

370		375		380
Asn Phe Leu Arg Leu His Pro Gly Cys Gly Pro His Thr Thr Phe Arg				
385		390		395
Trp Gln Val Lys Leu Arg Asn Leu Ile Glu Pro Glu Gln Cys Thr Phe				400
	405		410	415
Cys Phe Thr Ala Ser Arg Ile Asp Ile Cys Leu Arg Lys Arg Gln Ser				
	420		425	430
Gln Arg Trp Gly Gly Leu Glu Ala Pro Ala Ala Arg Val Gly Gly Ala				
	435		440	445
Lys Val Ala Val Pro Thr Gly Pro Thr Pro Leu Asp Ser Thr Pro Pro				
	450		455	460
Gly Gly Ala Pro His Pro Leu Thr Gly Gln Glu Glu Ala Arg Ala Val				
465		470		475
Glu Lys Asp Lys Ser Lys Ala Arg Ser Glu Asp Thr Gly Leu Asp Ser				
	485		490	495
Val Ala Thr Arg Thr Pro Met Glu His Val Thr Pro Lys Pro Glu Thr				
	500		505	510
His Leu Ala Ser Pro Lys Pro Thr Cys Met Val Pro Pro Met Pro His				
	515		520	525
Ser Pro Val Ser Gly Asp Ser Val Glu Glu Glu Glu Glu Glu Lys				
	530		535	540
Lys Val Cys Leu Pro Gly Phe Thr Gly Leu Val Asn Leu Gly Asn Thr				
545		550		555
Cys Phe Met Asn Ser Val Ile Gln Ser Leu Ser Asn Thr Arg Glu Leu				
	565		570	575
Arg Asp Phe Phe His Asp Arg Ser Phe Glu Ala Glu Ile Asn Tyr Asn				
	580		585	590
Asn Pro Leu Gly Thr Gly Gly Arg Leu Ala Ile Gly Phe Ala Val Leu				
	595		600	605
Leu Arg Ala Leu Trp Lys Gly Thr His His Ala Phe Gln Pro Ser Lys				
	610		615	620
Leu Lys Ala Ile Val Ala Ser Lys Ala Ser Gln Phe Thr Gly Tyr Ala				
625		630		635
Gln His Asp Ala Gln Glu Phe Met Ala Phe Leu Leu Asp Gly Leu His				
	645		650	655
Glu Asp Leu Asn Arg Ile Gln Asn Lys Pro Tyr Thr Glu Thr Val Asp				
	660		665	670
Ser Asp Gly Arg Pro Asp Glu Val Val Ala Glu Glu Ala Trp Gln Arg				
	675		680	685
His Lys Met Arg Asn Asp Ser Phe Ile Val Asp Leu Phe Gln Gly Gln				
	690		695	700
Tyr Lys Ser Lys Leu Val Cys Pro Val Cys Ala Lys Val Ser Ile Thr				
705		710		715
Phe Asp Pro Phe Leu Tyr Leu Pro Val Pro Leu Pro Gln Lys Gln Lys				
	725		730	735
Val Leu Pro Val Phe Tyr Phe Ala Arg Glu Pro His Ser Lys Pro Ile				
	740		745	750
Lys Phe Leu Val Ser Val Ser Lys Glu Asn Ser Thr Ala Ser Glu Val				
	755		760	765
Leu Asp Ser Leu Ser Gln Ser Val His Val Lys Pro Glu Asn Leu Arg				
	770		775	780
Leu Ala Glu Val Ile Lys Asn Arg Phe His Arg Val Phe Leu Pro Ser				
785		790		795
His Ser Leu Asp Thr Val Ser Pro Ser Asp Thr Leu Leu Cys Phe Glu				800

										805				810				815			
Leu	Leu	Ser	Ser	Glu	Leu	Ala	Lys	Glu	Arg	Val	Val	Val	Leu	Glu	Val						
				820				825				830									
Gln	Gln	Arg	Pro	Gln	Val	Pro	Ser	Val	Pro	Ile	Ser	Lys	Cys	Ala	Ala						
				835				840				845									
Cys	Gln	Arg	Lys	Gln	Gln	Ser	Glu	Asp	Glu	Lys	Leu	Lys	Arg	Cys	Thr						
				850				855				860									
Arg	Cys	Tyr	Arg	Val	Gly	Tyr	Cys	Asn	Gln	Leu	Cys	Gln	Lys	Thr	His						
				865				870				875				880					
Trp	Pro	Asp	His	Lys	Gly	Leu	Cys	Arg	Pro	Glu	Asn	Ile	Gly	Tyr	Pro						
				885				890				895									
Phe	Leu	Val	Ser	Val	Pro	Ala	Ser	Arg	Leu	Thr	Tyr	Ala	Arg	Leu	Ala						
				900				905				910									
Gln	Leu	Leu	Glu	Gly	Tyr	Ala	Arg	Tyr	Ser	Val	Ser	Val	Phe	Gln	Pro						
				915				920				925									
Pro	Phe	Gln	Pro	Gly	Arg	Met	Ala	Leu	Glu	Ser	Gln	Ser	Pro	Gly	Cys						
				930				935				940									
Thr	Thr	Leu	Leu	Ser	Thr	Gly	Ser	Leu	Glu	Ala	Gly	Asp	Ser	Glu	Arg						
				945				950				955				960					
Asp	Pro	Ile	Gln	Pro	Pro	Glu	Leu	Gln	Leu	Val	Thr	Pro	Met	Ala	Glu						
				965				970				975									
Gly	Asp	Thr	Gly	Leu	Pro	Arg	Val	Trp	Ala	Ala	Pro	Asp	Arg	Gly	Pro						
				980				985				990									
Val	Pro	Ser	Thr	Ser	Gly	Ile	Ser	Ser	Glu	Met	Leu	Ala	Ser	Gly	Pro						
				995				1000				1005									
Ile	Glu	Val	Gly	Ser	Leu	Pro	Ala	Gly	Glu	Arg	Val	Ser	Arg	Pro	Glu						
				1010				1015				1020									
Ala	Ala	Val	Pro	Gly	Tyr	Gln	His	Pro	Ser	Glu	Ala	Met	Asn	Ala	His						
				1025				1030				1035				1040					
Thr	Pro	Gln	Phe	Phe	Ile	Tyr	Lys	Ile	Asp	Ser	Ser	Asn	Arg	Glu	Gln						
				1045				1050				1055									
Arg	Leu	Glu	Asp	Lys	Gly	Asp	Thr	Pro	Leu	Glu	Leu	Gly	Asp	Asp	Cys						
				1060				1065				1070									
Ser	Leu	Ala	Leu	Val	Trp	Arg	Asn	Asn	Glu	Arg	Leu	Gln	Glu	Phe	Val						
				1075				1080				1085									
Leu	Val	Ala	Ser	Lys	Glu	Leu	Glu	Cys	Ala	Glu	Asp	Pro	Gly	Ser	Ala						
				1090				1095				1100									
Gly	Glu	Ala	Ala	Arg	Ala	Gly	His	Phe	Thr	Leu	Asp	Gln	Cys	Leu	Asn						
				1105				1110				1115				1120					
Leu	Phe	Thr	Arg	Pro	Glu	Val	Leu	Ala	Pro	Glu	Glu	Ala	Trp	Tyr	Cys						
				1125				1130				1135									
Pro	Gln	Cys	Lys	Gln	His	Arg	Glu	Ala	Ser	Lys	Gln	Leu	Leu	Leu	Trp						
				1140				1145				1150									
Arg	Leu	Pro	Asn	Val	Leu	Ile	Val	Gln	Leu	Lys	Arg	Phe	Ser	Phe	Arg						
				1155				1160				1165									
Ser	Phe	Ile	Trp	Arg	Asp	Lys	Ile	Asn	Asp	Leu	Val	Glu	Phe	Pro	Val						

1235	1240	1245
Thr Thr Val Asp Glu Ser Gln Val Val Thr Arg Tyr Ala Tyr Val Leu		
1250	1255	1260
Phe Tyr Arg Arg Arg Asn Ser Pro Val Glu Arg Pro Pro Arg Ala Gly		
1265	1270	1275
His Ser Glu His His Pro Asp Leu Gly Pro Ala Ala Glu Ala Ala Ala		
1285	1290	1295
Ser Gln Ala Ser Arg Ile Trp Gln Glu Leu Glu Ala Glu Glu Glu Pro		
1300	1305	1310
Val Pro Glu Gly Ser Gly Pro Leu Gly Pro Trp Gly Pro Gln Asp Trp		
1315	1320	1325
Val Gly Pro Leu Pro Arg Gly Pro Thr Thr Pro Asp Glu Gly Cys Leu		
1330	1335	1340
Arg Tyr Phe Val Leu Gly Thr Val Ala Ala Leu Val Ala Leu Val Leu		
1345	1350	1355
Asn Val Phe Tyr Pro Leu Val Ser Gln Ser Arg Trp Arg		
1365	1370	

<210> 3909

<211> 2704

<212> DNA

<213> Homo sapiens

<400> 3909

```

caccttctct ggacactcat catatagtct atttttggcc caacttcttt tgaaagggcc
60
cattcttttac ctcatcttaga taaatcagat aggtctttct tgcttacttc attaacaact
120
caattaatta taaccacatc acatgaagat tagatgtaat taggacctgt ccaatgtctt
180
tacatcccag tccttctgta ctcttaacct taagcaaatt ggtcgacctc tgtaggtcta
240
agtattctgt gtgtaacatg aaagctttga attaggccac gtttcgggct aattttttaa
300
aaagtgtttg tgatcctgtg aattccataa cccaccacct tcctttttcca actcttcacc
360
ttttaaatcc actttccatc tctccagagg aaagggcatt gagagtagag gaagcaagtc
420
cctttcacta aagcagcctg gtttgaaaaa gccggtaatc tctgaactgt ctcttgcttg
480
aacaagaaaa actccctctg aaataccttt ttctccttgt gatagcaaca gaaaccaagc
540
agcaacagcc cttggaaaga ggctaaattt ttcttgactt ctgcagcaac aaagaccgtg
600
aaaagtggc acttctggcc taacgtgcc gtcacacctac ccctcacccc agggcaaccc
660
aggctggaca tttagtgcct ccctctttat tcctctgtga tcatccagat cagcacttg
720
ctgtttatct tcaaatctca cgaacctcac cccaagatct tcacattctg gatctcagct
780
gctcttgaag gacagtgact tgttaccacc gcaacagcag agcctgccat ccccaacaga
840
tcaccagttg tccttgacat cgtgccctac cttgtctccc tttgtggtct cctaaatgcc
900

```

catctcgttg gccttggttc ggctagtggg atggaggggt gctgcctagc actgacctga
960
gagtgtgtgt gacccactga cccaatggac atcaaaggcc agttctggaa tgatgacgac
1020
tcggagggag ataataatc agaggaattt ctctatggcg ttcaggggag ctgtgcagct
1080
gacctgtatc gacaccaca gcttgatgca gacattgaag ccgtgaagga gatctacagt
1140
gagaactctg tatccatcag agaatatgga actatcgatg acgtggacat tgacctccac
1200
atcaacatca gcttcctcga tgaggaagtc tctacagcct ggaaggctct ccggacagaa
1260
cctattgtgt tgaggctgag attttctctc tcccagtacc tagatggacc agaaccatcc
1320
attgaggttt tccagccatc aaataaggaa ggatttgggc tgggtcttca gttgaaaaag
1380
atcctgggta tgtttacatc ccaacaatgg aaacatctga gcaatgattt cttgaagacc
1440
cagcaggaga agaggcacag ttggttcaag gcaagtggta ccatcaagaa gttccgagct
1500
ggcctcagca tcttttcacc catccccaag tctcccagtt tccctatcat acaggactcc
1560
atgtcgaaag gcaaactagg tgtaccagag cttcgggttg ggcgcctcat gaaccgttcc
1620
atctcctgta ccatgaataa ccccaaagtg gaagtgtttg gctaccctcc cagccccag
1680
gtcagtggtc actgcaagaa cattcccact ctggagtatg gattcctcgt tcagatcatg
1740
aagtatgcag aacagaggat tccaacattg aatgagtact gtgtggtgtg tgatgagcag
1800
catgtcttcc aaaatggatc tatgctgaag ccagctgtct gtactcgtga actatgcgtt
1860
ttctccttct acacactggg cgtcatgtct ggagctgcag aggaggtggc cactggagca
1920
gaggtggttg atctgctggt ggccatgtgt agggcagctt tagagtcccc tagaaagagc
1980
atcatctttg agccttatcc ctctgtggtg gacccactg atcccaagac tctggccttt
2040
aacctaaga agaagaatta tgagcggtt cagaaagctc tggatagtgt gatgtctatt
2100
cgggagatga cccagggctc atatttgga atcaagaaac agatggacaa gttggatccc
2160
ctggcccatc ctctcctgca gtggatcatc tctagcaaca ggtcacacat tgtcaaacta
2220
cctctcagca ggcagctgaa gttcatgcac acctcacacc agttcctcct gctgagcagc
2280
cctcctgcca aggaggtctg gttccggacc gccaaagagc tctatggcag cacctttgcc
2340
ttccatgggt cccacattga gaactggcat tcgatcctgc gcaatgggct ggtcaatgca
2400
tcctacacca aactgcagga atgggaaaag gacagcacag gatgccctcc aaggatgagc
2460
tggtccagag atacaacagg atgaatacca tccccagac ccgatccatt cagtcacggc
2520

tcctgcagag tcggaatcta aactgtatag cactttgtga agtgattaca tctaaggacc
 2580
 tccagaagca tgggaacatc tgggtgtgcc ctgtgtccga ccatgtctgc acaagattct
 2640
 tctttgtata tgaggatggt caggtgggcy atgccaacat tattattcgg gtccccaagt
 2700
 taca
 2704

<210> 3910

<211> 499

<212> PRT

<213> Homo sapiens

<400> 3910

Met	Asp	Ile	Lys	Gly	Gln	Phe	Trp	Asn	Asp	Asp	Asp	Ser	Glu	Gly	Asp	1	5	10	15
Asn	Glu	Ser	Glu	Glu	Phe	Leu	Tyr	Gly	Val	Gln	Gly	Ser	Cys	Ala	Ala	20	25	30	
Asp	Leu	Tyr	Arg	His	Pro	Gln	Leu	Asp	Ala	Asp	Ile	Glu	Ala	Val	Lys	35	40	45	
Glu	Ile	Tyr	Ser	Glu	Asn	Ser	Val	Ser	Ile	Arg	Glu	Tyr	Gly	Thr	Ile	50	55	60	
Asp	Asp	Val	Asp	Ile	Asp	Leu	His	Ile	Asn	Ile	Ser	Phe	Leu	Asp	Glu	65	70	75	80
Glu	Val	Ser	Thr	Ala	Trp	Lys	Val	Leu	Arg	Thr	Glu	Pro	Ile	Val	Leu	85	90	95	
Arg	Leu	Arg	Phe	Ser	Leu	Ser	Gln	Tyr	Leu	Asp	Gly	Pro	Glu	Pro	Ser	100	105	110	
Ile	Glu	Val	Phe	Gln	Pro	Ser	Asn	Lys	Glu	Gly	Phe	Gly	Leu	Gly	Leu	115	120	125	
Gln	Leu	Lys	Lys	Ile	Leu	Gly	Met	Phe	Thr	Ser	Gln	Gln	Trp	Lys	His	130	135	140	
Leu	Ser	Asn	Asp	Phe	Leu	Lys	Thr	Gln	Gln	Glu	Lys	Arg	His	Ser	Trp	145	150	155	160
Phe	Lys	Ala	Ser	Gly	Thr	Ile	Lys	Lys	Phe	Arg	Ala	Gly	Leu	Ser	Ile	165	170	175	
Phe	Ser	Pro	Ile	Pro	Lys	Ser	Pro	Ser	Phe	Pro	Ile	Ile	Gln	Asp	Ser	180	185	190	
Met	Leu	Lys	Gly	Lys	Leu	Gly	Val	Pro	Glu	Leu	Arg	Val	Gly	Arg	Leu	195	200	205	
Met	Asn	Arg	Ser	Ile	Ser	Cys	Thr	Met	Asn	Asn	Pro	Lys	Val	Glu	Val	210	215	220	
Phe	Gly	Tyr	Pro	Pro	Ser	Pro	Gln	Val	Ser	Gly	His	Cys	Lys	Asn	Ile	225	230	235	240
Pro	Thr	Leu	Glu	Tyr	Gly	Phe	Leu	Val	Gln	Ile	Met	Lys	Tyr	Ala	Glu	245	250	255	
Gln	Arg	Ile	Pro	Thr	Leu	Asn	Glu	Tyr	Cys	Val	Val	Cys	Asp	Glu	Gln	260	265	270	
His	Val	Phe	Gln	Asn	Gly	Ser	Met	Leu	Lys	Pro	Ala	Val	Cys	Thr	Arg	275	280	285	
Glu	Leu	Cys	Val	Phe	Ser	Phe	Tyr	Thr	Leu	Gly	Val	Met	Ser	Gly	Ala	290	295	300	
Ala	Glu	Glu	Val	Ala	Thr	Gly	Ala	Glu	Val	Val	Asp	Leu	Leu	Val	Ala				

305					310				315				320			
Met	Cys	Arg	Ala	Ala	Leu	Glu	Ser	Pro	Arg	Lys	Ser	Ile	Ile	Phe	Glu	
				325				330				335				
Pro	Tyr	Pro	Ser	Val	Val	Asp	Pro	Thr	Asp	Pro	Lys	Thr	Leu	Ala	Phe	
				340				345				350				
Asn	Pro	Lys	Lys	Lys	Asn	Tyr	Glu	Arg	Leu	Gln	Lys	Ala	Leu	Asp	Ser	
				355				360				365				
Val	Met	Ser	Ile	Arg	Glu	Met	Thr	Gln	Gly	Ser	Tyr	Leu	Glu	Ile	Lys	
				370				375				380				
Lys	Gln	Met	Asp	Lys	Leu	Asp	Pro	Leu	Ala	His	Pro	Leu	Leu	Gln	Trp	
				385				390				395				
Ile	Ile	Ser	Ser	Asn	Arg	Ser	His	Ile	Val	Lys	Leu	Pro	Leu	Ser	Arg	
				405				410				415				
Gln	Leu	Lys	Phe	Met	His	Thr	Ser	His	Gln	Phe	Leu	Leu	Leu	Ser	Ser	
				420				425				430				
Pro	Pro	Ala	Lys	Glu	Ala	Arg	Phe	Arg	Thr	Ala	Lys	Lys	Leu	Tyr	Gly	
				435				440				445				
Ser	Thr	Phe	Ala	Phe	His	Gly	Ser	His	Ile	Glu	Asn	Trp	His	Ser	Ile	
				450				455				460				
Leu	Arg	Asn	Gly	Leu	Val	Asn	Ala	Ser	Tyr	Thr	Lys	Leu	Gln	Glu	Trp	
				465				470				475				
Glu	Lys	Asp	Ser	Thr	Gly	Cys	Pro	Pro	Arg	Met	Ser	Trp	Ser	Arg	Asp	
				485				490				495				
Thr	Thr	Gly														

```
<210> 3911
<211> 9121
<212> DNA
<213> Homo sapiens
```

```

<400> 3911
nnnggatgtgg  tgagccctct  tgactatgag  acgaccaagg  agtacaccct  acgggtgcga
60
gcacagggatg  gtggccgtcc  cccactctct  aatgtctctg  gcttggtgac  agtacaggtc
120
ctggatatca  acgacaatgc  ccccatcttc  gtcagcacc  ctttccaggc  tactgtcctg
180
gagagcgtcc  ccttaggcta  cctggttctc  catgtccagg  ctatcgacgc  tgatgctggt
240
gacaatgccc  gcctggaata  ccgccttgct  ggggtgggac  atgacttccc  cttcaccatc
300
aacaatggca  caggctggat  ctctgtggct  gctgaactgg  accgggagga  agttgatttc
360
tacagctttg  gggtagaagc  tcgagaccat  ggcactccag  cactcactgc  ctcggccagt
420
gtcagcgtga  ctgtcctgga  tgtcaacgac  aacaatccaa  cctttacca  accagagtac
480
acagtgcggc  tcaatgagga  tgcagctgtg  ggcaccagcg  tggtgacggg  gtcagctgtg
540
gaccgtgatg  ctcatagtgt  catcacctac  cagatcacca  gtggcaatac  tcgaaaccgc
600
ttctccatca  ccagccaaag  tgggtggtggg  ctggtatccc  ttgccttgcc  actggactac
660

```


aaacttgagc ggcagtatgt gttggctgtt accgcctccg atggcactcg gcaggacacg
720
gcacagattg tggatgaatgt caccgacgcc aacacccatc gtccctgtctt tcagagctcc
780
cactatacag tgaatgttaa tgaggaccgg ccggcaggca ccacgggtggg gctgatcagc
840
gccacggatg aggacacagg tgagaatgcc cgcacacact acttcatgga ggacagcatc
900
ccccagttcc gcatcgatgc agacacgggg gctgtcacca ccagggctga gctggactac
960
gaagaccaag tgtcttacac cctggccatt actgctcggg acaatggcat tccccagaag
1020
tccgacacca cctacctgga gatcctgggtg aacgacgtga atgacaatgc ccctcagttc
1080
ctgagagact cctaccaggg cagtgtctat gaggatgtgc cacccttcac tagcgtcctg
1140
cagatctcag ccactgatcg tgattctgga cttaatggca gggctcttcta caccttccaa
1200
ggaggcgacg atggagacgg tgactttatt gttgagcca cgtcaggcat cgtgccaacg
1260
ctacggagggc tggatcgaga gaacgtggcc cagtatgtct tgcgggcata tgcagtggac
1320
aaggggatgc cccagccccg cacacctatg gaagtgcagc tcactgtgtt ggatgtgaat
1380
gacaatcccc ctgtctttga gcaggatgag tttgatgtgt ttgtggaaga gaacagcccc
1440
attgggctag ccgtggcccc ggtcacagcc actgaccccc atgaaggcac caatgccccg
1500
attatgtacc agattgtgga gggcaacatc cctgagggtct tccagctgga catcttctcc
1560
ggggagctga cagccctggg agacttagac tacgaggacc ggctgagta cgtcctggtc
1620
atccaggcca cgtcagctcc tctggtgagc cgggctacag tccacgtccg cctccttgac
1680
cgcaatgaca acccaccagt gctgggcaac tttgagatcc ttttcaacaa ctatgtcacc
1740
aatcgctcaa gcagcttccc tgggggtgcc attggccgag tacctgcccc tgacctgat
1800
atctcagata gtctgactta cagctttgag cggggaaatg aactcagcct ggtcctgctc
1860
aatgcctcca cgggtgagct gaagctaagc cgcgcactgg acaacaaccg gcctctggag
1920
gcgctcatga gcgtgtctgt gtctgatggc atccacagcg tcacggcctt ctgcaccctg
1980
cgtgtcacca tcatcacgga cgacatgctg accaacagca tcaactgtccg cctggagaac
2040
atgtcccagg agaagtccct gtccccgctg ctggccctct tcgtggaggg ggtggccgcc
2100
gtgctgtcca ccaccaagga cgacgtcttc gtcttcaacg tccagaacga caccgacgtc
2160
agctccaaca tcctgaacgt gaccttctcg gcgctgctgc ctggcgggcgt ccgcgggccg
2220
ttcttcccggt cggaggacct gcaggagcag atctacctga atcggacgct gctgaccacc
2280

atctccacgc agcgcggtgt gcccttcgac gacaacatct gcctgcgcga gccctgcgag
2340
aactacatga agtgcggtgt cgttctgcga ttgcacagct ccgcgccctt cctcagctcc
2400
accaccgtgc tcttccggcc catccacccc atcaacggcc tgcgctgccg ctgcccgcgc
2460
ggcttcaccg gcgactactg cgagacggag atcgacctct gctactcgcg gccgtggggc
2520
gccaacggcc gctgccgcag ccgcgagggc ggctacacct gcctctgtcg tgatggctac
2580
acgggtgagc actgtgaggt gagtgtctgc tcaggccggt gcaccccggt tgtctgcaag
2640
aatgggggca cctgtgtcaa cctgctgggt ggcggtttca agtgcgattg cccatctgga
2700
gacttcgaga agccctactg ccagggtgacc acgcgcagct tccccgcca ctcttcac
2760
acctttcgcg gcctgcgcga gcgtttccac ttacacctgg ccctctcggt tgccacaaag
2820
gagcgcgacg ggttctgtgt gtacaatggg cgtttcaatg agaagcatga ctttgtggcc
2880
ctcgaggtga tccaggagca ggtccagctc accttctctg caggggagtc aaccaccacg
2940
gtgtcccat tcgtgcccg aggagtcagt gatggccagt ggcatacggg gcagctgaaa
3000
tactacaata agccactgtt gggtcagaca gggctccac agggcccatc agagcagaag
3060
gtggctgtgg tgaccgtgga tggctgtgac acaggagtgg ccttgcgctt cggatctgtc
3120
ctgggcaact actcctgtgc tgcccagggc acccagggtg gcagcaagaa gtctctggat
3180
ctgacggggc ccctgtact aggcgggggtg cctgacctgc ccgagagctt cccagtccga
3240
atgcggcagt tcgtgggctg catgcggaac ctgcagggtg acagccggca catagacatg
3300
gctgacttca ttgccaacaa tggcaccgtg cctggctgcc ctgccaagaa gaacgtgtgt
3360
gacagcaaca cttgccacaa tgggggcact tgcgtgaacc agtgggacgc gttcagctgc
3420
gagtgcctcc tgggctttgg gggcaagagc tgcgcccagg aaatggccaa tccacagcac
3480
ttcctgggca gcagcctggt ggctggcat ggctctctgc tgcccatctc ccaaccctgg
3540
tacctcagcc tcatgttccg cacgcgccag gccgacggtg tcctgtgtga ggccatcacc
3600
agggggcgca gcaccatcac cctacagcta cgagagggcc acgtgatgct gagcgtggag
3660
ggcacagggc ttcaggcctc ctctctccgt ctggagccag gccggggcaa tgacggtgac
3720
tggcaccatg cacagctggc actgggagcc agcggggggc ctggccatgc cattctgtcc
3780
ttcgattatg ggcagcagag agcagagggc aacctgggcc cccggctgca tggctctcac
3840
ctgagcaaca taacagtggg cggaatacct gggccagccg gcggtgtggc ccgtggcttt
3900

cggggctgtt tgcaggggtg gcgggtgagc gatacgccag aggggggttaa cagcctggat
3960
cccagccatg gggagagcat caacgtggag caaggctgta gcctgcctga cccttgtgac
4020
tcaaaccctg gtcctgctaa cagctattgc agcaacgact gggacagcta ttctctgcagc
4080
tgtgatccag gttactatgg tgacaactgt actaatgtgt gtgacctgaa cccgtgtgag
4140
caccagtctg tgtgtaccg caagcccagt gcccccatg gctatacctg cgagtgtccc
4200
ccaaattacc ttggggcata ctgtgagacc aggattgacc agccttgctc ccgtggctgg
4260
tggggacatc ccacatgtgg cccatgcaac tgtgatgtca gcaaaggctt tgaccagac
4320
tgcaacaaga caagcggcga gtgccactgc aaggagaacc actaccggcc cccaggcagc
4380
cccacctgcc tcttgtgtga ctgctacccc acaggctcct tgtccagagt ctgtgacct
4440
gaggatggcc agtgtccatg caagccaggt gtcacgggc gtcagtgtga ccgctgtgac
4500
aacccttttg ctgaggtcac caccaatggc tgtgaagtga attatgacag ctgcccacga
4560
gcgattgagg ctgggatctg gtggccccgt acccgcttcg ggctgcctgc tgctgctccc
4620
tgtcccaaag gctcctttgg gactgctgtg cgccactgtg atgagcacag ggggtggctc
4680
ccccaaaacc tcttcaactg cagctccatc accttctcag aactgaaggg cttcgtgag
4740
cggctacagc ggaatgagtc aggcctagac tcagggcgct ccagcagct agcctgctc
4800
ctgcgcaacg ccacgcagca cacagctggc tacttcggca gcgacgtcaa ggtggcctac
4860
cagctggcca cgcggctgct ggccacagag agcaccagc ggggctttgg gctgtctgcc
4920
acacaggacg tgcacttcac tgagaatctg ctgcgggtgg gcagcgccct cctggacaca
4980
gccaacaagc ggcactggga gctgatccag cagacagagg gtggcaccgc ctggctgctc
5040
cagcactatg aggcctacgc cagtgccttg gcccagaaca tgcggcacac ctacctaagc
5100
cccttcacca tcgtcacgcc caacattgtc atctccgtag tgcgcttggc caaagggaac
5160
tttctgggg ccaagctgcc ccgctacgag gccctgcgtg gggagcagcc cccggacctt
5220
gagacaacag tcattctgcc tgagtctgtc ttcagagaga cgcccccggt ggtcaggccc
5280
gcaggccccg gagaggccca ggagccagag gagctggcac ggcgacagcg acggcaccgc
5340
gagctgagcc agggtgaggc tgtggccagc gtcacatct accgcacct ggccgggcta
5400
ctgcctcata actatgacct tgacaagcgc agcttgagag tccccaaacg cccgatcatc
5460
aacacacccg tggtagcat cagcgtccat gatgatgagg agcttctgcc ccgggcccctg
5520

gacaaacccg tcacggtgca gttccgcctg ctggagacag aggagcggac caagcccatc
5580
tgtgtcttct ggaaccattc aatcctggtc agtggcacag gtggctggtc ggccagaggc
5640
tgtgaagtcg tcttccgcaa tgagagccac gtcagctgcc agtgcaacca catgacgagc
5700
ttcgtgtgac tcatggacgt ttctcggcgg gagaatgggg agatcctgcc actgaagaca
5760
ctgacatacg tggctctagg tgtcaccttg gctgcccttc tgctcacctt cttcttcttc
5820
actctcttgc gtatcctgcg ctccaaccaa cacggcatcc gacgtaacct gacagctgcc
5880
ctgggcctgg ctcagctggc cttctccttg ggaatcaacc aggctgacct cccttttgcc
5940
tgcacagtca ttgccatcct gctgcacttc ctgtacctct gcaccttttc ctgggctctg
6000
ctggaggcct tgcacctgta ccgggcactc actgagggtgc gcgatgtcaa caccggcccc
6060
atgcgcttct actacatgct gggctggggc gtgcctgcct tcatcacagg gctagccgtg
6120
ggcctggacc ccgagggcta cgggaaccct gacttctgct ggctctccat ctatgacacg
6180
ctcatctgga gttttgctgg cccggtggcc tttgcgctct cgatgagtgt cttcctgtac
6240
atcctggcgg cccgggcctc ctgtgctgcc cagcggcagg gctttgagaa gaaaggctct
6300
gtctcgggcc tgcagccctc cttcgccgtc ctctgctgac tgagcgccac gtggctgctg
6360
gcactgctct ctgtcaacag cgacaccctc ctcttccact acctctttgc tacctgcaat
6420
tgcattccagg gccccttcat cttctctctc tatgtgggtg ttagcaagga ggtccggaaa
6480
gcactcaagc ttgcctgcag ccgcaagccc agccctgacc ctgctctgac caccaagtc
6540
acctgacct cgtcctacaa ctgccccagc ccctacgcag atgggaggct gtaccagccc
6600
tacggagact cggccggctc tctgcacagc accagtcgct cgggcaagag tcagcccagc
6660
tacatccctt tcttgtgtag ggaggagtcc gcactgaacc ctggccaagg gccccctggc
6720
ctgggggata caggcagcct gttcctggaa ggtcaagacc agcagcatga tcctgacacg
6780
gactccgaca gtgacctgtc cttagaagac gaccagagtg gctcctatgc ctctaccac
6840
tcatcagaca gtgaggagga agaagaggag gaggaagagg agggcgccct ccctggagag
6900
cagggtctgg atagcctgct ggggcctgga gcagagagac tgccccctgca cagtactccc
6960
aaggatgggg gccagggcc tggcaaggcc ccctggccag gagacttttg gaccacagca
7020
aaagagagta gtggcaacgg gggccctgag gagcggctgc gggagaatgg agatgcctg
7080
tctcgagagg ggtccctagg ccccttcca ggctcttctg cccagcctca caaaggcatc
7140

cttaagaaga agtgtctgcc caccatcagc gagaagagca gcctcctgcg gctccccctg
7200
gagcaatgca cagggctctc ccggggctcc tccgctagtg agggcagccg gggcgggccc
7260
cctccccgcg caccgccccg gcagagcctc caggagcagc tgaacggggt catgccccatc
7320
gccatgagca tcaaggcagg cacgggtgat gaggactcgt caggctccga atttctcttc
7380
tttaacttcc tgcattaacc ctggggcgtg gttcctacgc ccgaggctcc ctcccccttc
7440
ccagccgcac tcatgccctg ctctgtctt gtgctttatc ctgccccgt ccccatcgcc
7500
tgccccgagc agcgacgaaa cgtccatctg aggagcctgg gccttgccgg gaggggtact
7560
cacccacct aaggccatct agtgccaact cccccccac cattccccctc actgcacttt
7620
ggacccttg ggccaacatc tccaagacaa agtttttcag aaaagaggaa aaaaagaatt
7680
taaaaaagga tctccactct tcatgacttc agggattcat tttttttata cgctggaaat
7740
tgactccctt tccccctcc aaagaggata ggacctcca ggatgcttcc cagcctctcc
7800
tcagtttccc atctgctgtg cctctgggag gagagggact cctggggggc ctgccccca
7860
tacgccatca ccaaaaggaa aggacaaagc cacacgcagc cagggttca cacccttcag
7920
gctgcacccg ggcaggcctc agaacggtga ggggccaggg caaagggtgt gcctcgtcct
7980
gcccgcactg cctctcccag gaactggaaa agccctgtcc ggtgaggggg cagaaggact
8040
cagcgcctt ggacccccaa atgctgcatg aacacatctt caggggagcc tgtgccccca
8100
ggcgggggtc gggcagcccc agcccctctc cttttcctgg actctggccg tgcgcggcag
8160
cccaggtgtt tgctcagttg ctgacccaaa agtgcttcat tttcgtgcc cgccccgcgc
8220
cccgggcagg ccagtcatgt gttaagtgc gcttctttgc tgtgatgtgg gtgggggagg
8280
aagagtaaac acagtgtctg ctcggtgcc ctgagggtgc tcaatcaagc acaggtttca
8340
agtctgggtt ctggtgtcca ctacccacc ccacccccca aaatcagaca aatgctactt
8400
tgtctaacct gctgtggcct ctgagacatg ttctatcttt aacccttct tggaaattggc
8460
tctctcttc aaaggaccag gtctgttcc tctttctccc cgactccacc ccagctccct
8520
gtgaagagag agttaatata tttgttttat ttatttgctt tttgcgttgg gatgggttcg
8580
tgtccagtcc cgggggtctg atatggccat cacaggctgg gtgttcccag cagccctggc
8640
ttgggggctt gacgcccttc cccttgcccc aggccatcat ctccccacct ctctccccct
8700
ctctcagtt ttgccgactg cttttcatct ggtcaccat ttactccaag catgtattcc
8760

agacttgtca ctgactttcc ttctggagca ggtggctaga aaaagaggct gtgggcagga
 8820
 aagaaaggct cctgtttctc atttgtgagg ccagcctctg gcttttctgc cgtggattct
 8880
 cccctgtct tctccctca gcaattcctg caaagggtta aaaatttaac tggtttttac
 8940
 tactgatgac ttgatttaaa aaaaatacaa agatgctgga tgctaacttg atactaacca
 9000
 tcagattgta cagtttggtt gttgctgtaa atatggtagc gttttgttgt tgttggtttt
 9060
 tcatgccccca tactactgaa taaactagtt ctgtgcgggt aaaaaaaaaa aaaaaaaaaa
 9120
 a
 9121

<210> 3912
 <211> 2405
 <212> PRT
 <213> Homo sapiens

<400> 3912
 Glu Ser Val Pro Leu Gly Tyr Leu Val Leu His Val Gln Ala Ile Asp
 1 5 10 15
 Ala Asp Ala Gly Asp Asn Ala Arg Leu Glu Tyr Arg Leu Ala Gly Val
 20 25 30
 Gly His Asp Phe Pro Phe Thr Ile Asn Asn Gly Thr Gly Trp Ile Ser
 35 40 45
 Val Ala Ala Glu Leu Asp Arg Glu Glu Val Asp Phe Tyr Ser Phe Gly
 50 55 60
 Val Glu Ala Arg Asp His Gly Thr Pro Ala Leu Thr Ala Ser Ala Ser
 65 70 75 80
 Val Ser Val Thr Val Leu Asp Val Asn Asp Asn Asn Pro Thr Phe Thr
 85 90 95
 Gln Pro Glu Tyr Thr Val Arg Leu Asn Glu Asp Ala Ala Val Gly Thr
 100 105 110
 Ser Val Val Thr Val Ser Ala Val Asp Arg Asp Ala His Ser Val Ile
 115 120 125
 Thr Tyr Gln Ile Thr Ser Gly Asn Thr Arg Asn Arg Phe Ser Ile Thr
 130 135 140
 Ser Gln Ser Gly Gly Gly Leu Val Ser Leu Ala Leu Pro Leu Asp Tyr
 145 150 155 160
 Lys Leu Glu Arg Gln Tyr Val Leu Ala Val Thr Ala Ser Asp Gly Thr
 165 170 175
 Arg Gln Asp Thr Ala Gln Ile Val Val Asn Val Thr Asp Ala Asn Thr
 180 185 190
 His Arg Pro Val Phe Gln Ser Ser His Tyr Thr Val Asn Val Asn Glu
 195 200 205
 Asp Arg Pro Ala Gly Thr Thr Val Val Leu Ile Ser Ala Thr Asp Glu
 210 215 220
 Asp Thr Gly Glu Asn Ala Arg Ile Thr Tyr Phe Met Glu Asp Ser Ile
 225 230 235 240
 Pro Gln Phe Arg Ile Asp Ala Asp Thr Gly Ala Val Thr Thr Gln Ala
 245 250 255
 Glu Leu Asp Tyr Glu Asp Gln Val Ser Tyr Thr Leu Ala Ile Thr Ala

				260						265						270			
Arg	Asp	Asn	Gly	Ile	Pro	Gln	Lys	Ser	Asp	Thr	Thr	Tyr	Leu	Glu	Ile				
		275					280					285							
Leu	Val	Asn	Asp	Val	Asn	Asp	Asn	Ala	Pro	Gln	Phe	Leu	Arg	Asp	Ser				
		290				295					300								
Tyr	Gln	Gly	Ser	Val	Tyr	Glu	Asp	Val	Pro	Pro	Phe	Thr	Ser	Val	Leu				
305					310					315					320				
Gln	Ile	Ser	Ala	Thr	Asp	Arg	Asp	Ser	Gly	Leu	Asn	Gly	Arg	Val	Phe				
				325					330						335				
Tyr	Thr	Phe	Gln	Gly	Gly	Asp	Asp	Gly	Asp	Gly	Asp	Phe	Ile	Val	Glu				
			340					345					350						
Ser	Thr	Ser	Gly	Ile	Val	Arg	Thr	Leu	Arg	Arg	Leu	Asp	Arg	Glu	Asn				
		355				360					365								
Val	Ala	Gln	Tyr	Val	Leu	Arg	Ala	Tyr	Ala	Val	Asp	Lys	Gly	Met	Pro				
		370				375					380								
Pro	Ala	Arg	Thr	Pro	Met	Glu	Val	Thr	Val	Thr	Val	Leu	Asp	Val	Asn				
385				390						395					400				
Asp	Asn	Pro	Pro	Val	Phe	Glu	Gln	Asp	Glu	Phe	Asp	Val	Phe	Val	Glu				
				405					410						415				
Glu	Asn	Ser	Pro	Ile	Gly	Leu	Ala	Val	Ala	Arg	Val	Thr	Ala	Thr	Asp				
			420					425					430						
Pro	Asp	Glu	Gly	Thr	Asn	Ala	Gln	Ile	Met	Tyr	Gln	Ile	Val	Glu	Gly				
		435				440						445							
Asn	Ile	Pro	Glu	Val	Phe	Gln	Leu	Asp	Ile	Phe	Ser	Gly	Glu	Leu	Thr				
		450				455					460								
Ala	Leu	Val	Asp	Leu	Asp	Tyr	Glu	Asp	Arg	Pro	Glu	Tyr	Val	Leu	Val				
465					470					475					480				
Ile	Gln	Ala	Thr	Ser	Ala	Pro	Leu	Val	Ser	Arg	Ala	Thr	Val	His	Val				
				485					490					495					
Arg	Leu	Leu	Asp	Arg	Asn	Asp	Asn	Pro	Pro	Val	Leu	Gly	Asn	Phe	Glu				
			500					505					510						
Ile	Leu	Phe	Asn	Asn	Tyr	Val	Thr	Asn	Arg	Ser	Ser	Ser	Phe	Pro	Gly				
		515					520					525							
Gly	Ala	Ile	Gly	Arg	Val	Pro	Ala	His	Asp	Pro	Asp	Ile	Ser	Asp	Ser				
		530				535					540								
Leu	Thr	Tyr	Ser	Phe	Glu	Arg	Gly	Asn	Glu	Leu	Ser	Leu	Val	Leu	Leu				
545					550					555					560				
Asn	Ala	Ser	Thr	Gly	Glu	Leu	Lys	Leu	Ser	Arg	Ala	Leu	Asp	Asn	Asn				
				565					570						575				
Arg	Pro	Leu	Glu	Ala	Leu	Met	Ser	Val	Ser	Val	Ser	Asp	Gly	Ile	His				
			580					585					590		</				

690	695	700
Arg Val Leu Pro Phe Asp	Asp Asn Ile Cys Leu Arg Glu Pro Cys Glu	
705	710	715
Asn Tyr Met Lys Cys Val Ser Val Leu Arg Phe Asp Ser Ser Ala Pro		720
	725	730
Phe Leu Ser Ser Thr Thr Val Leu Phe Arg Pro Ile His Pro Ile Asn		735
	740	745
Gly Leu Arg Cys Arg Cys Pro Pro Gly Phe Thr Gly Asp Tyr Cys Glu		750
	755	760
Thr Glu Ile Asp Leu Cys Tyr Ser Arg Pro Cys Gly Ala Asn Gly Arg		765
	770	775
Cys Arg Ser Arg Glu Gly Gly Tyr Thr Cys Leu Cys Arg Asp Gly Tyr		780
785	790	795
Thr Gly Glu His Cys Glu Val Ser Ala Arg Ser Gly Arg Cys Thr Pro		800
	805	810
Gly Val Cys Lys Asn Gly Gly Thr Cys Val Asn Leu Leu Val Gly Gly		815
	820	825
Phe Lys Cys Asp Cys Pro Ser Gly Asp Phe Glu Lys Pro Tyr Cys Gln		830
	835	840
Val Thr Thr Arg Ser Phe Pro Ala His Ser Phe Ile Thr Phe Arg Gly		845
	850	855
Leu Arg Gln Arg Phe His Phe Thr Leu Ala Leu Ser Phe Ala Thr Lys		860
865	870	875
Glu Arg Asp Gly Leu Leu Tyr Asn Gly Arg Phe Asn Glu Lys His		880
	885	890
Asp Phe Val Ala Leu Glu Val Ile Gln Glu Gln Val Gln Leu Thr Phe		895
	900	905
Ser Ala Gly Glu Ser Thr Thr Thr Val Ser Pro Phe Val Pro Gly Gly		910
	915	920
Val Ser Asp Gly Gln Trp His Thr Val Gln Leu Lys Tyr Tyr Asn Lys		925
	930	935
Pro Leu Leu Gly Gln Thr Gly Leu Pro Gln Gly Pro Ser Glu Gln Lys		940
945	950	955
Val Ala Val Val Thr Val Asp Gly Cys Asp Thr Gly Val Ala Leu Arg		960
	965	970
Phe Gly Ser Val Leu Gly Asn Tyr Ser Cys Ala Ala Gln Gly Thr Gln		975
	980	985
Gly Gly Ser Lys Lys Ser Leu Asp Leu Thr Gly Pro Leu Leu Leu Gly		990
	995	1000
Gly Val Pro Asp Leu Pro Glu Ser Phe Pro Val Arg Met Arg Gln Phe		1005
	1010	1015
Val Gly Cys Met Arg Asn Leu Gln Val Asp Ser Arg His Ile Asp Met		1020
1025	1030	1035
Ala Asp Phe Ile Ala Asn Asn Gly Thr Val Pro Gly Cys Pro Ala Lys		1040
	1045	1050
Lys Asn Val Cys Asp Ser Asn Thr Cys His Asn Gly Gly Thr Cys Val		1055
	1060	1065
Asn Gln Trp Asp Ala Phe Ser Cys Glu Cys Pro Leu Gly Phe Gly Gly		1070
	1075	1080
Lys Ser Cys Ala Gln Glu Met Ala Asn Pro Gln His Phe Leu Gly Ser		1085
	1090	1095
Ser Leu Val Ala Trp His Gly Leu Ser Leu Pro Ile Ser Gln Pro Trp		1100
1105	1110	1115
Tyr Leu Ser Leu Met Phe Arg Thr Arg Gln Ala Asp Gly Val Leu Leu		1120

1125 1130 1135
 Gln Ala Ile Thr Arg Gly Arg Ser Thr Ile Thr Leu Gln Leu Arg Glu
 1140 1145 1150
 Gly His Val Met Leu Ser Val Glu Gly Thr Gly Leu Gln Ala Ser Ser
 1155 1160 1165
 Leu Arg Leu Glu Pro Gly Arg Ala Asn Asp Gly Asp Trp His His Ala
 1170 1175 1180
 Gln Leu Ala Leu Gly Ala Ser Gly Gly Pro Gly His Ala Ile Leu Ser
 1185 1190 1195 1200
 Phe Asp Tyr Gly Gln Gln Arg Ala Glu Gly Asn Leu Gly Pro Arg Leu
 1205 1210 1215
 His Gly Leu His Leu Ser Asn Ile Thr Val Gly Gly Ile Pro Gly Pro
 1220 1225 1230
 Ala Gly Gly Val Ala Arg Gly Phe Arg Gly Cys Leu Gln Gly Val Arg
 1235 1240 1245
 Val Ser Asp Thr Pro Glu Gly Val Asn Ser Leu Asp Pro Ser His Gly
 1250 1255 1260
 Glu Ser Ile Asn Val Glu Gln Gly Cys Ser Leu Pro Asp Pro Cys Asp
 1265 1270 1275 1280
 Ser Asn Pro Cys Pro Ala Asn Ser Tyr Cys Ser Asn Asp Trp Asp Ser
 1285 1290 1295
 Tyr Ser Cys Ser Cys Asp Pro Gly Tyr Tyr Gly Asp Asn Cys Thr Asn
 1300 1305 1310
 Val Cys Asp Leu Asn Pro Cys Glu His Gln Ser Val Cys Thr Arg Lys
 1315 1320 1325
 Pro Ser Ala Pro His Gly Tyr Thr Cys Glu Cys Pro Pro Asn Tyr Leu
 1330 1335 1340
 Gly Pro Tyr Cys Glu Thr Arg Ile Asp Gln Pro Cys Pro Arg Gly Trp
 1345 1350 1355 1360
 Trp Gly His Pro Thr Cys Gly Pro Cys Asn Cys Asp Val Ser Lys Gly
 1365 1370 1375
 Phe Asp Pro Asp Cys Asn Lys Thr Ser Gly Glu Cys His Cys Lys Glu
 1380 1385 1390
 Asn His Tyr Arg Pro Pro Gly Ser Pro Thr Cys Leu Leu Cys Asp Cys
 1395 1400 1405
 Tyr Pro Thr Gly Ser Leu Ser Arg Val Cys Asp Pro Glu Asp Gly Gln
 1410 1415 1420
 Cys Pro Cys Lys Pro Gly Val Ile Gly Arg Gln Cys Asp Arg Cys Asp
 1425 1430 1435 1440
 Asn Pro Phe Ala Glu Val Thr Thr Asn Gly Cys Glu Val Asn Tyr Asp
 1445 1450 1455
 Ser Cys Pro Arg Ala Ile Glu Ala Gly Ile Trp Trp Pro Arg Thr Arg
 1460 1465 1470
 Phe Gly Leu Pro Ala Ala Ala Pro Cys Pro Lys Gly Ser Phe Gly Thr
 1475 1480 1485
 Ala Val Arg His Cys Asp Glu His Arg Gly Trp Leu Pro Pro Asn Leu
 1490 1495 1500
 Phe Asn Cys Thr Ser Ile Thr Phe Ser Glu Leu Lys Gly Phe Ala Glu
 1505 1510 1515 1520
 Arg Leu Gln Arg Asn Glu Ser Gly Leu Asp Ser Gly Arg Ser Gln Gln
 1525 1530 1535
 Leu Ala Leu Leu Arg Asn Ala Thr Gln His Thr Ala Gly Tyr Phe
 1540 1545 1550
 Gly Ser Asp Val Lys Val Ala Tyr Gln Leu Ala Thr Arg Leu Leu Ala

1555	1560	1565
His Glu Ser Thr Gln Arg Gly Phe Gly Leu Ser Ala Thr Gln Asp Val		
1570	1575	1580
His Phe Thr Glu Asn Leu Leu Arg Val Gly Ser Ala Leu Leu Asp Thr		
1585	1590	1595
Ala Asn Lys Arg His Trp Glu Leu Ile Gln Gln Thr Glu Gly Gly Thr		1600
1605	1610	1615
Ala Trp Leu Leu Gln His Tyr Glu Ala Tyr Ala Ser Ala Leu Ala Gln		
1620	1625	1630
Asn Met Arg His Thr Tyr Leu Ser Pro Phe Thr Ile Val Thr Pro Asn		
1635	1640	1645
Ile Val Ile Ser Val Val Arg Leu Asp Lys Gly Asn Phe Ala Gly Ala		
1650	1655	1660
Lys Leu Pro Arg Tyr Glu Ala Leu Arg Gly Glu Gln Pro Pro Asp Leu		
1665	1670	1675
Glu Thr Thr Val Ile Leu Pro Glu Ser Val Phe Arg Glu Thr Pro Pro		1680
1685	1690	1695
Val Val Arg Pro Ala Gly Pro Gly Glu Ala Gln Glu Pro Glu Glu Leu		
1700	1705	1710
Ala Arg Arg Gln Arg Arg His Pro Glu Leu Ser Gln Gly Glu Ala Val		
1715	1720	1725
Ala Ser Val Ile Ile Tyr Arg Thr Leu Ala Gly Leu Leu Pro His Asn		
1730	1735	1740
Tyr Asp Pro Asp Lys Arg Ser Leu Arg Val Pro Lys Arg Pro Ile Ile		
1745	1750	1755
Asn Thr Pro Val Val Ser Ile Ser Val His Asp Asp Glu Glu Leu Leu		1760
1765	1770	1775
Pro Arg Ala Leu Asp Lys Pro Val Thr Val Gln Phe Arg Leu Leu Glu		
1780	1785	1790
Thr Glu Glu Arg Thr Lys Pro Ile Cys Val Phe Trp Asn His Ser Ile		
1795	1800	1805
Leu Val Ser Gly Thr Gly Gly Trp Ser Ala Arg Gly Cys Glu Val Val		
1810	1815	1820
Phe Arg Asn Glu Ser His Val Ser Cys Gln Cys Asn His Met Thr Ser		
1825	1830	1835
Phe Ala Val Leu Met Asp Val Ser Arg Arg Glu Asn Gly Glu Ile Leu		1840
1845	1850	1855
Pro Leu Lys Thr Leu Thr Tyr Val Ala Leu Gly Val Thr Leu Ala Ala		
1860	1865	1870
Leu Leu Leu Thr Phe Phe Phe Leu Thr Leu Leu Arg Ile Leu Arg Ser		
1875	1880	1885
Asn Gln His Gly Ile Arg Arg Asn Leu Thr Ala Ala Leu Gly Leu Ala		
1890	1895	1900
Gln Leu Val Phe Leu Leu Gly Ile Asn Gln Ala Asp Leu Pro Phe Ala		
1905	1910	1915
Cys Thr Val Ile Ala Ile Leu Leu His Phe Leu Tyr Leu Cys Thr Phe		1920
1925	1930	1935
Ser Trp Ala Leu Leu Glu Ala Leu His Leu Tyr Arg Ala Leu Thr Glu		
1940	1945	1950
Val Arg Asp Val Asn Thr Gly Pro Met Arg Phe Tyr Tyr Met Leu Gly		
1955	1960	1965
Trp Gly Val Pro Ala Phe Ile Thr Gly Leu Ala Val Gly Leu Asp Pro		
1970	1975	1980
Glu Gly Tyr Gly Asn Pro Asp Phe Cys Trp Leu Ser Ile Tyr Asp Thr		

1985		1990		1995		2000
Leu Ile Trp Ser	Phe Ala Gly Pro Val	Ala Phe Ala Val Ser Met Ser				
	2005	2010		2015		
Val Phe Leu Tyr Ile	Leu Ala Ala Arg Ala Ser Cys Ala Ala Gln Arg					
	2020	2025		2030		
Gln Gly Phe Glu Lys Lys Gly	Pro Val Ser Gly Leu Gln Pro Ser Phe					
	2035	2040		2045		
Ala Val Leu Leu Leu Leu Ser	Ala Thr Trp Leu Leu Ala Leu Leu Ser					
	2050	2055		2060		
Val Asn Ser Asp Thr	Leu Leu Phe His Tyr Leu Phe Ala Thr Cys Asn					
2065	2070	2075		2080		
Cys Ile Gln Gly	Pro Phe Ile Phe Leu Ser Tyr Val Val Leu Ser Lys					
	2085	2090		2095		
Glu Val Arg Lys Ala Leu Lys Leu	Ala Cys Ser Arg Lys Pro Ser Pro					
	2100	2105		2110		
Asp Pro Ala Leu Thr Thr Lys Ser	Thr Leu Thr Ser Ser Tyr Asn Cys					
	2115	2120		2125		
Pro Ser Pro Tyr Ala Asp Gly Arg Leu Tyr Gln	Pro Tyr Gly Asp Ser					
	2130	2135		2140		
Ala Gly Ser Leu His Ser Thr Ser Arg Ser Gly Lys Ser Gln Pro Ser						
2145	2150	2155		2160		
Tyr Ile Pro Phe Leu Leu Arg Glu Glu Ser Ala Leu Asn Pro Gly Gln						
	2165	2170		2175		
Gly Pro Pro Gly Leu Gly Asp Pro Gly Ser Leu Phe Leu Glu Gly Gln						
	2180	2185		2190		
Asp Gln Gln His Asp Pro Asp Thr Asp Ser Asp Ser Asp Leu Ser Leu						
	2195	2200		2205		
Glu Asp Asp Gln Ser Gly Ser Tyr Ala Ser Thr His Ser Ser Asp Ser						
	2210	2215		2220		
Glu Glu Glu Glu Glu Glu Glu Glu Glu Ala Ala Phe Pro Gly Glu						
2225	2230	2235		2240		
Gln Gly Trp Asp Ser Leu Leu Gly Pro Gly Ala Glu Arg Leu Pro Leu						
	2245	2250		2255		
His Ser Thr Pro Lys Asp Gly Gly Pro Gly Pro Gly Lys Ala Pro Trp						
	2260	2265		2270		
Pro Gly Asp Phe Gly Thr Thr Ala Lys Glu Ser Ser Gly Asn Gly Ala						
	2275	2280		2285		
Pro Glu Glu Arg Leu Arg Glu Asn Gly Asp Ala Leu Ser Arg Glu Gly						
	2290	2295		2300		
Ser Leu Gly Pro Leu Pro Gly Ser Ser Ala Gln Pro His Lys Gly Ile						
2305	2310	2315		2320		
Leu Lys Lys Lys Cys Leu Pro Thr Ile Ser Glu Lys Ser Ser Leu Leu						
	2325	2330		2335		
Arg Leu Pro Leu Glu Gln Cys Thr Gly Ser Ser Arg Gly Ser Ser Ala						
	2340	2345		2350		
Ser Glu Gly Ser Arg Gly Gly Pro Pro Pro Arg Pro Pro Pro Arg Gln						
	2355	2360		2365		
Ser Leu Gln Glu Gln Leu Asn Gly Val Met Pro Ile Ala Met Ser Ile						
	2370	2375		2380		
Lys Ala Gly Thr Val Asp Glu Asp Ser Ser Gly Ser Glu Phe Leu Phe						
2385	2390	2395		2400		
Phe Asn Phe Leu His						
	2405					

<210> 3913
 <211> 5237
 <212> DNA
 <213> Homo sapiens

<400> 3913
 nccccggggg ggggggttat aactgctgca gccgcaggat aacctcgcag ggtgggccgg
 60
 agggcgggcg ccgccgctgc ctgtgctgcg gcgatggccc agtgtgtaca aacagtgcag
 120
 gagctaattcc cggactcctt cgtcccctgt gtcgctgcgc tgtgcagcga cgaagccgag
 180
 cggctcactc gtctcaatca cctcagcttc gcggagctgc ttaagccctt cccccgctc
 240
 acttccgagg ttcacatgag agatcctaataatcaacttc acgtaattaa aaatttgaag
 300
 atagcagtaa gcaacattgt caccagcca cctcagcctg gagccatccg gaagcttttg
 360
 aatgatgttg tttctggcag tcagcctgca gaaggattag tagctaattgt gattacagca
 420
 ggagattatg accttaacat cagtgccact actccatggg ttgagtctta cagagaaacc
 480
 tttcttcagt cgatgccagc atcggatcat gaatttctga accactattt agcatgtatg
 540
 ttggtagcgt catctagtga agctgaacct gtggaacagt tttcaaagtt gtcacaagaa
 600
 cagcatcgaa ttcagcacia cagtgattat tcctacccca agtgggtttat accaaatata
 660
 cttaaatact atgtactttt acatgatgta agtgcaggag atgaacagag agctgaatca
 720
 atttatgaag aaatgaaaca gaaatatgga actcagggtt gctatttact taaaattaat
 780
 tctcgaacat ctaatcgagc atcagatgaa cagataccag atccttggag tcagtatctc
 840
 cagaaaaata gtattcaaaa ccaggaaatca tatgaagatg gcccttgtac tataacttca
 900
 aataagaatt ctgataataa cttgctttca ttggatggat tagataacga agtcaaagat
 960
 ggcttaccaa ataacttttag agctcaccca cttcagttgg agcaatccag tgacccttct
 1020
 aacagtattg atggcccaga tcatctaaga tctgcttcat cgttacatga aacaaagaaa
 1080
 ggaaatactg gaataattca tgggtgcatgt ttaacactta ctgatcatga tagaattcga
 1140
 cagtttatac aaaagttcac atttcggggc cttttgccac atatagagaa aacaattagg
 1200
 caattaaacg atcagctaataatcaagaaa ggtttgagtc gatctctatt ttctgcaact
 1260
 aaaaaatggg ttagtggcag taaagttcca gaaaagagca ttaatgacct gaaaaatata
 1320
 tctggcttgc tgtatcctcc ggaagcacca gaacttcaaa tcaggaaaat ggctgactta
 1380
 tgttttttgg tgcagcatta tgatttggct tacagttgct atcactactgc aaagaaagat
 1440

tttcttaatg atcaagcaat gctttatgca gctggtgcct tggaaatggc agcagtgtct
1500
gcttttcttc aaccaggagc acctaggcca tatectgctc attacatgga tacagcaatt
1560
cagacataca gagatatctg caagaatatg gtgttggtg aaagatgtgt gttgcttagt
1620
gctgaacttt taaaaagcca aagcaaatat tcagaggctg cagctctcct aatacggttg
1680
accagtgagg attctgatct tcgaagtgca cttcttttgg aacaggcagc acattgcttt
1740
ataaacatga aaagtcccat ggtagaaaa tatgcatttc atatgatatt ggcaggccat
1800
cgatttagta aagcagggca gaaaaagcat gctttacgct gttattgtca agccatgcaa
1860
gtttacaaag gaaaaggctg gtctcttgca gaggatcaca ttaatttcac tattgggcgc
1920
cagtccata ctcttagaca gctggataat gctgtgctc cttttaggca tattctaatt
1980
aatgaaagta aacaatctgc tgctcaacag ggggctttcc tcagagaata tctttatgtt
2040
tacaagaatg taagtcagct gtcaccagat ggtcctttgc cacagcttcc tttaccgtat
2100
attaacagtt cagcaacacg ggtttttttt ggccatgaca gacgaccagc ggatggtgaa
2160
aaacaagcag ctactcatgt aagtcttgat caagaatatg attctgaatc ctctcagcag
2220
tggcgagaac ttgaggaaca agttgtttct gtgggtaaca aaggagtaat tccatccaat
2280
tttcatccca cacaatactg tttgaacagt tactcagata attcaagatt tccacttgca
2340
gttgtagaag aaccaattac agtgggaagt gcttttagaa accctttgaa agttctactt
2400
ttgttgactg atttgtcatt gctttggaag tttcatccta aagatttcag tggaaaggat
2460
aatgaagaag ttaaacaact agttacaagt gaacctgaaa tgattggagc tgaagttatt
2520
tcagagttct taattaatgg cgaagaatca aaagtggcaa gactaaagct ctttcccat
2580
cacatagggg agctgcatat tctgggagtt gtttataatc ttggcactat tcagggtctt
2640
atgacagtag atggcattgg tgctcttccc ggatgtcaca caggaaaata ttccttgagt
2700
atgtcagtc gagggagca ggatttagaa attcaaggtc ctcgacttaa caacacaaaa
2760
gaagagaaaa catctgttaa atatggcct gatcgacgtt tagatcccat aatcacagaa
2820
gaaatgccac tggtggaggt gttctttata cattttccta cagggttct ctgtggagaa
2880
atccgaaaag catatgtaga atttgtcaat gtcagcaaat gtccacttac tggattgaag
2940
gttggttcta aacgtccaga gttctttact ttcgggtgta atactgctgt tctaacacca
3000
ctaagtcct cagcttctga gaattgtagt gcttacaaga ctgttgtagac agatgctacc
3060

tctgtgtgta cagcactcat atcatcagct tcttctgtag actttggcat tggcacagga
3120
agtcaaccag aggtgattcc tgttcccctt cctgacactg ttcttctacc cggagcctca
3180
gtgcagctgc caatgtgggt acgtgggcct gatgaagaag gtgtccatga aattaacttt
3240
ttgttttact atgaaagtgt caaaaagcag ccaaaaatac ggcacagaat attaagacac
3300
actgcaatta tttgtaccag tcggtcttta aatgtacggg ccactgtctg cagaagtaat
3360
tctcttgaaa atgaagaagg cagaggaggg aatatgctag tctttgtgga tgtggaaaat
3420
accaatacta gtgaagcagg cgtaaggaa ttccacatag tgcaagtatc aagtagtagc
3480
aaacactgga agttacagaa atctgtaaat ctttctgaaa acaaagatgc caaacttgcc
3540
agtagggaga agggaaagt ttgctttaag gcaataagat gtgagaaaga agaagcggcc
3600
acacagtcct ctgaaaaata tacctttgca gatatcatct ttggaaatga acagataata
3660
agttcagcaa gcccatgtgc agacttcttt tatcgaagtt tatcttctga attgaaaaaa
3720
ccacaagctc acttgccctgt gcatacagaa aaacagtcaa cagaggatgc tgtgagattg
3780
attcaaaaat gcagtggagt agatttgaat attgtcatat tatggaaggc atacgttgtg
3840
gaagacagta aacagcttat tttggaaggt caacatcatg ttattcttcg cactatagga
3900
aaagaagcct tttcatatcc tcagaaacag gagccaccag aaatggaact attgaaattt
3960
ttcaggccag aaaacattac agtttcctca aggccatcag tagagcagct ttctagtctc
4020
attaaaacga gtcttacta ccagaatca tttaatcatc catttcatca aaaaagcctt
4080
tgtttagtac cagtcactct tttactttcc aattgttcta aggctgatgt agatgtcata
4140
gttgatcttc ggcataaaac aacaagtcca gaagcactgg aaatccatgg atcattcaca
4200
tggtttggac aaacacagta taaacttcaa cttaaaagcc aggagattca cagtctgcag
4260
ctgaaagcat gctttgttca tacagggtgt tataaccttg gaactcctag ggtatttgcc
4320
aagttatcgg accaagttac agtgtttgaa acaagtcagc agaattccat gcctgcctg
4380
atcatcatca gtaatgtgtg acaacttgga aatttgtagt gaaatccaca ataatcagtt
4440
tttgctggat gggttttaca gcagtatttg atatacctaa cttgttatgg aggttgattg
4500
atatctgac cctgcaaaat actttgactt gtcattttgt tgatgatgca aagcacgttg
4560
gactgagaat acttaacatt cttttctctgt atttctttaa accctgagaa taatttacat
4620
gtcataata caggatatca gcatatttgt gcaccttatt aagccccatc ttaagaaaa
4680

acaaaagtcta agtctgctgt tacaacttgt caatgggtata cgaatattag gagatgattc
 4740
 tgagaaagga aaggccttgt tggcagtact cctgttaagc cattagtctc taaattccag
 4800
 ctttactgtg aagtcttata gagtgttaaa tacaaatttt cctgtcttgc ttcacacagt
 4860
 tccttaaaat cagttttgaa ctttgggtcat agagtcttca tttttcagta tttgggtggc
 4920
 cctatgactt atacataact ttgtaaaaag aaaaaaaaaat tttttctgat gctttgaata
 4980
 tagttttgaa aggagttttg acttttttcc cctcattcat ctccagtatag agtgcgctat
 5040
 ttcacaatac gatttttgtc attaaaatta ccatattctt tattatataa cgtaactat
 5100
 tgagttgatc tgtttaaaat ataaatctca agttaattaa aaataagctt ttcaaaaatg
 5160
 tattatattt ataacaata tactgtaaat agaataaaga catgctattc actgtaaaaa
 5220
 aaaaaaaaaa aaaaaaa
 5237

<210> 3914

<211> 1435

<212> PRT

<213> Homo sapiens

<400> 3914

Met	Ala	Gln	Cys	Val	Gln	Thr	Val	Gln	Glu	Leu	Ile	Pro	Asp	Ser	Phe
1			5					10					15		
Val	Pro	Cys	Val	Ala	Ala	Leu	Cys	Ser	Asp	Glu	Ala	Glu	Arg	Leu	Thr
		20					25					30			
Arg	Leu	Asn	His	Leu	Ser	Phe	Ala	Glu	Leu	Leu	Lys	Pro	Phe	Ser	Arg
		35				40					45				
Leu	Thr	Ser	Glu	Val	His	Met	Arg	Asp	Pro	Asn	Asn	Gln	Leu	His	Val
	50				55					60					
Ile	Lys	Asn	Leu	Lys	Ile	Ala	Val	Ser	Asn	Ile	Val	Thr	Gln	Pro	Pro
65				70					75					80	
Gln	Pro	Gly	Ala	Ile	Arg	Lys	Leu	Leu	Asn	Asp	Val	Val	Ser	Gly	Ser
		85						90					95		
Gln	Pro	Ala	Glu	Gly	Leu	Val	Ala	Asn	Val	Ile	Thr	Ala	Gly	Asp	Tyr
	100						105					110			
Asp	Leu	Asn	Ile	Ser	Ala	Thr	Thr	Pro	Trp	Phe	Glu	Ser	Tyr	Arg	Glu
	115					120					125				
Thr	Phe	Leu	Gln	Ser	Met	Pro	Ala	Ser	Asp	His	Glu	Phe	Leu	Asn	His
	130				135					140					
Tyr	Leu	Ala	Cys	Met	Leu	Val	Ala	Ser	Ser	Ser	Glu	Ala	Glu	Pro	Val
145			150					155						160	
Glu	Gln	Phe	Ser	Lys	Leu	Ser	Gln	Glu	Gln	His	Arg	Ile	Gln	His	Asn
		165					170					175			
Ser	Asp	Tyr	Ser	Tyr	Pro	Lys	Trp	Phe	Ile	Pro	Asn	Thr	Leu	Lys	Tyr
	180					185					190				
Tyr	Val	Leu	His	Asp	Val	Ser	Ala	Gly	Asp	Glu	Gln	Arg	Ala	Glu	
	195				200					205					
Ser	Ile	Tyr	Glu	Glu	Met	Lys	Gln	Lys	Tyr	Gly	Thr	Gln	Gly	Cys	Tyr

210	215	220
Leu Leu Lys Ile Asn Ser Arg Thr Ser Asn Arg Ala Ser Asp Glu Gln		
225	230	235
Ile Pro Asp Pro Trp Ser Gln Tyr Leu Gln Lys Asn Ser Ile Gln Asn		240
	245	250
Gln Glu Ser Tyr Glu Asp Gly Pro Cys Thr Ile Thr Ser Asn Lys Asn		255
	260	265
Ser Asp Asn Asn Leu Leu Ser Leu Asp Gly Leu Asp Asn Glu Val Lys		270
	275	280
Asp Gly Leu Pro Asn Asn Phe Arg Ala His Pro Leu Gln Leu Glu Gln		285
	290	295
Ser Ser Asp Pro Ser Asn Ser Ile Asp Gly Pro Asp His Leu Arg Ser		300
305	310	315
Ala Ser Ser Leu His Glu Thr Lys Lys Gly Asn Thr Gly Ile Ile His		320
	325	330
Gly Ala Cys Leu Thr Leu Thr Asp His Asp Arg Ile Arg Gln Phe Ile		335
	340	345
Gln Lys Phe Thr Phe Arg Gly Leu Leu Pro His Ile Glu Lys Thr Ile		350
	355	360
Arg Gln Leu Asn Asp Gln Leu Ile Ser Arg Lys Gly Leu Ser Arg Ser		365
	370	375
Leu Phe Ser Ala Thr Lys Lys Trp Phe Ser Gly Ser Lys Val Pro Glu		380
385	390	395
Lys Ser Ile Asn Asp Leu Lys Asn Thr Ser Gly Leu Leu Tyr Pro Pro		400
	405	410
Glu Ala Pro Glu Leu Gln Ile Arg Lys Met Ala Asp Leu Cys Phe Leu		415
	420	425
Val Gln His Tyr Asp Leu Ala Tyr Ser Cys Tyr His Thr Ala Lys Lys		430
	435	440
Asp Phe Leu Asn Asp Gln Ala Met Leu Tyr Ala Ala Gly Ala Leu Glu		445
	450	455
Met Ala Ala Val Ser Ala Phe Leu Gln Pro Gly Ala Pro Arg Pro Tyr		460
465	470	475
Pro Ala His Tyr Met Asp Thr Ala Ile Gln Thr Tyr Arg Asp Ile Cys		480
	485	490
Lys Asn Met Val Leu Ala Glu Arg Cys Val Leu Leu Ser Ala Glu Leu		495
	500	505
Leu Lys Ser Gln Ser Lys Tyr Ser Glu Ala Ala Ala Leu Leu Ile Arg		510
	515	520
Leu Thr Ser Glu Asp Ser Asp Leu Arg Ser Ala Leu Leu Leu Glu Gln		525
	530	535
Ala Ala His Cys Phe Ile Asn Met Lys Ser Pro Met Val Arg Lys Tyr		540
545	550	555
Ala Phe His Met Ile Leu Ala Gly His Arg Phe Ser Lys Ala Gly Gln		560
	565	570
Lys Lys His Ala Leu Arg Cys Tyr Cys Gln Ala Met Gln Val Tyr Lys		575
	580	585
Gly Lys Gly Trp Ser Leu Ala Glu Asp His Ile Asn Phe Thr Ile Gly		590
	595	600
Arg Gln Ser Tyr Thr Leu Arg Gln Leu Asp Asn Ala Val Ser Ala Phe		605
	610	615
Arg His Ile Leu Ile Asn Glu Ser Lys Gln Ser Ala Ala Gln Gln Gly		620
625	630	635
Ala Phe Leu Arg Glu Tyr Leu Tyr Val Tyr Lys Asn Val Ser Gln Leu		640

645																650																655																															
Ser	Pro	Asp	Gly	Pro	Leu	Pro	Gln	Leu	Pro	Leu	Pro	Tyr	Ile	Asn	Ser	Ser	Pro	Asp	Gly	Pro	Leu	Pro	Gln	Leu	Pro	Tyr	Ile	Asn	Ser	Ser	Pro	Asp	Gly	Pro	Leu	Pro	Gln	Leu	Pro	Tyr	Ile	Asn	Ser																				
660																665																670																															
Ser	Ala	Thr	Arg	Val	Phe	Phe	Gly	His	Asp	Arg	Arg	Pro	Ala	Asp	Gly	Ser	Ala	Thr	Arg	Val	Phe	Phe	Gly	His	Asp	Arg	Arg	Pro	Ala	Asp	Gly	Ser	Ala	Thr	Arg	Val	Phe	Phe	Gly	His	Asp	Arg	Arg	Pro	Ala	Asp	Gly																
675																680																685																															
Glu	Lys	Gln	Ala	Ala	Thr	His	Val	Ser	Leu	Asp	Gln	Glu	Tyr	Asp	Ser	Glu	Lys	Gln	Ala	Ala	Thr	His	Val	Ser	Leu	Asp	Gln	Glu	Tyr	Asp	Ser	Glu	Lys	Gln	Ala	Ala	Thr	His	Val	Ser	Leu	Asp	Gln	Glu	Tyr	Asp	Ser																
690																695																700																															
Glu	Ser	Ser	Gln	Gln	Trp	Arg	Glu	Leu	Glu	Glu	Gln	Val	Val	Ser	Val	Glu	Ser	Ser	Gln	Gln	Trp	Arg	Glu	Leu	Glu	Glu	Gln	Val	Val	Ser	Val	Glu	Ser	Ser	Gln	Gln	Trp	Arg	Glu	Leu	Glu	Glu	Gln	Val	Val	Ser	Val																
705																710																715																720															
Val	Asn	Lys	Gly	Val	Ile	Pro	Ser	Asn	Phe	His	Pro	Thr	Gln	Tyr	Cys	Val	Asn	Lys	Gly	Val	Ile	Pro	Ser	Asn	Phe	His	Pro	Thr	Gln	Tyr	Cys	Val	Asn	Lys	Gly	Val	Ile	Pro	Ser	Asn	Phe	His	Pro	Thr	Gln	Tyr	Cys																
725																730																735																															
Leu	Asn	Ser	Tyr	Ser	Asp	Asn	Ser	Arg	Phe	Pro	Leu	Ala	Val	Val	Glu	Leu	Asn	Ser	Tyr	Ser	Asp	Asn	Ser	Arg	Phe	Pro	Leu	Ala	Val	Val	Glu	Leu	Asn	Ser	Tyr	Ser	Asp	Asn	Ser	Arg	Phe	Pro	Leu	Ala	Val	Val	Glu																
740																745																750																															
Glu	Pro	Ile	Thr	Val	Glu	Val	Ala	Phe	Arg	Asn	Pro	Leu	Lys	Val	Leu	Glu	Pro	Ile	Thr	Val	Glu	Val	Ala	Phe	Arg	Asn	Pro	Leu	Lys	Val	Leu	Glu	Pro	Ile	Thr	Val	Glu	Val	Ala	Phe	Arg	Asn	Pro	Leu	Lys	Val	Leu																
755																760																765																															
Leu	Leu	Leu	Thr	Asp	Leu	Ser	Leu	Leu	Trp	Lys	Phe	His	Pro	Lys	Asp	Leu	Leu	Leu	Thr	Asp	Leu	Ser	Leu	Leu	Trp	Lys	Phe	His	Pro	Lys	Asp	Leu	Leu	Leu	Thr	Asp	Leu	Ser	Leu	Leu	Trp	Lys	Phe	His	Pro	Lys	Asp																
770																775																780																															
Phe	Ser	Gly	Lys	Asp	Asn	Glu	Glu	Val	Lys	Gln	Leu	Val	Thr	Ser	Glu	Phe	Ser	Gly	Lys	Asp	Asn	Glu	Glu	Val	Lys	Gln	Leu	Val	Thr	Ser	Glu	Phe	Ser	Gly	Lys	Asp	Asn	Glu	Glu	Val	Lys	Gln	Leu	Val	Thr	Ser	Glu																
785																790																795																800															
Pro	Glu	Met	Ile	Gly	Ala	Glu	Val	Ile	Ser	Glu	Phe	Leu	Ile	Asn	Gly	Pro	Glu	Met	Ile	Gly	Ala	Glu	Val	Ile	Ser	Glu	Phe	Leu	Ile	Asn	Gly	Pro	Glu	Met	Ile	Gly	Ala	Glu	Val	Ile	Ser	Glu	Phe	Leu	Ile	Asn	Gly																
805																810																815																															
Glu	Glu	Ser	Lys	Val	Ala	Arg	Leu	Lys	Leu	Phe	Pro	His	His	Ile	Gly	Glu	Glu	Ser	Lys	Val	Ala	Arg	Leu	Lys	Leu	Phe	Pro	His	His	Ile	Gly	Glu	Glu	Ser	Lys	Val	Ala	Arg	Leu	Lys	Leu	Phe	Pro	His	His	Ile	Gly																
820																825																830																															
Glu	Leu	His	Ile	Leu	Gly	Val	Val	Tyr	Asn	Leu	Gly	Thr	Ile	Gln																																																	

1075	1080	1085
Asn Ser Leu Glu Asn Glu Glu Gly Arg Gly Gly Asn Met Leu Val Phe		
1090	1095	1100
Val Asp Val Glu Asn Thr Asn Thr Ser Glu Ala Gly Val Lys Glu Phe		
1105	1110	1115
His Ile Val Gln Val Ser Ser Ser Ser Lys His Trp Lys Leu Gln Lys		
1125	1130	1135
Ser Val Asn Leu Ser Glu Asn Lys Asp Ala Lys Leu Ala Ser Arg Glu		
1140	1145	1150
Lys Gly Lys Phe Cys Phe Lys Ala Ile Arg Cys Glu Lys Glu Glu Ala		
1155	1160	1165
Ala Thr Gln Ser Ser Glu Lys Tyr Thr Phe Ala Asp Ile Ile Phe Gly		
1170	1175	1180
Asn Glu Gln Ile Ile Ser Ser Ala Ser Pro Cys Ala Asp Phe Phe Tyr		
1185	1190	1195
Arg Ser Leu Ser Ser Glu Leu Lys Lys Pro Gln Ala His Leu Pro Val		
1205	1210	1215
His Thr Glu Lys Gln Ser Thr Glu Asp Ala Val Arg Leu Ile Gln Lys		
1220	1225	1230
Cys Ser Glu Val Asp Leu Asn Ile Val Ile Leu Trp Lys Ala Tyr Val		
1235	1240	1245
Val Glu Asp Ser Lys Gln Leu Ile Leu Glu Gly Gln His His Val Ile		
1250	1255	1260
Leu Arg Thr Ile Gly Lys Glu Ala Phe Ser Tyr Pro Gln Lys Gln Glu		
1265	1270	1275
Pro Pro Glu Met Glu Leu Leu Lys Phe Phe Arg Pro Glu Asn Ile Thr		
1285	1290	1295
Val Ser Ser Arg Pro Ser Val Glu Gln Leu Ser Ser Leu Ile Lys Thr		
1300	1305	1310
Ser Leu His Tyr Pro Glu Ser Phe Asn His Pro Phe His Gln Lys Ser		
1315	1320	1325
Leu Cys Leu Val Pro Val Thr Leu Leu Leu Ser Asn Cys Ser Lys Ala		
1330	1335	1340
Asp Val Asp Val Ile Val Asp Leu Arg His Lys Thr Thr Ser Pro Glu		
1345	1350	1355
Ala Leu Glu Ile His Gly Ser Phe Thr Trp Leu Gly Gln Thr Gln Tyr		
1365	1370	1375
Lys Leu Gln Leu Lys Ser Gln Glu Ile His Ser Leu Gln Leu Lys Ala		
1380	1385	1390
Cys Phe Val His Thr Gly Val Tyr Asn Leu Gly Thr Pro Arg Val Phe		
1395	1400	1405
Ala Lys Leu Ser Asp Gln Val Thr Val Phe Glu Thr Ser Gln Gln Asn		
1410	1415	1420
Ser Met Pro Ala Leu Ile Ile Ile Ser Asn Val		
1425	1430	1435

<210> 3915

<211> 1802

<212> DNA

<213> Homo sapiens

<400> 3915

tcgactcgct ggtacaacct tctcagctac aaatacttga agaagcagag cagggagctc
60

aagccagtgg gagttatggc ccctgcctca gggcctgcca gcacggacgc tgtgtctgct
120
ctgttggaac agacagcagt ggagctggag aagaggcagg agggcaggag cagcacacag
180
acactggaag acagctggag gtatgaggag accagtgaga atgaggcagt agccgaggaa
240
gaggaggagg aggtggagga ggaggagaa gaggatgttt tcaccgagaa agcctcacct
300
gatatggatg ggtaccacgc attaaagggtg gacaaagaga ccaacacgga gaccccggcc
360
ccatcccca cagtgggtgcg acctaaggac cggagagtgg gcaccccgtc ccaggggcca
420
tttcttcgag ggagcaccat catccgctct aagaccttct ccccaggacc ccagagccag
480
tacgtgtgcc ggctgaatcg gagtgatagt gacagctcca ctctgtccaa aaagccacct
540
tttgttcgaa actccctgga gcgacgcagc gtccggatga agcggccgtc cccaccccca
600
cagccttcct cgggtcaagtc gctgcgctcc gacggtctga tccgtacctc gctggacctg
660
gagttagacc tgcaggcgac aagaacctgg cacagccaat tgacccagga gatctcggtg
720
ctgaaggagc tcaaggagca gctggaacaa gccaagagcc acggggagaa ggagctgcca
780
cagtggttgc gtgaggacga gcgtttccgc ctgctgctga ggatgctgga gaagcggcag
840
atggaccgag cggagcaciaa gggtgagctt cagacagaca agatgatgag ggcagctgcc
900
aaggatgtgc acaggctccg aggccagagc tgtaaggaa cccagaagt tcagtctttc
960
agggagaaga tggcattttt caccgcgcct cggatgaata tcccagctct ctctgcagat
1020
gacgtcta at cgccagaaaa gtatttcctt tgttccactg accaggctgt gaacattgac
1080
tgtggctaaa gttatttatg tgggtgtata tgaagggtact gagtcaaaag tcctctagt
1140
ctcttggtgg tttgaagatg aaccgacttt ttagtttggg tcctactggt gttattaaaa
1200
acagaacaaa aacaaaacac acacacacac aaaaacagaa acaaaaaaaaa ccagcattaa
1260
aataataaga ttgtatagtt tgtatattta ggagtgtatt tttgggaaag aaaatttaaa
1320
tgaactaaag cagtattgag ttgctgctct tcttaaaatc gtttagattt tttttgggtt
1380
gtacagctcc accttttaga ggtcttactg caataagaag taatgcctgg gggacggtaa
1440
tcctaatagg acgtcccgc cttgtcacag tacagcta at ttttcctagt taacatattt
1500
tgtacaatat taaaaaaatg cacagaaacc attggggggg attcagaggt gcatccacgg
1560
atcttcttga gctgtgacgt gtttttatgt ggctgcccc a cgtggagcgg gcagtgtgat
1620
aggctgggtg ggctaagcag cctagtctat gtgggtgaca ggccacgctg gtctcagatg
1680

cccagtgaag ccactaacat gagtgagggg agggctgtgg ggaactccat tcagttttat
 1740
 ctccatcaat aaagtggcct ttcaaaaaga aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa
 1800
 aa
 1802

<210> 3916
 <211> 342
 <212> PRT
 <213> Homo sapiens

<400> 3916
 Ser Thr Arg Trp Tyr Asn Leu Leu Ser Tyr Lys Tyr Leu Lys Lys Gln
 1 5 10 15
 Ser Arg Glu Leu Lys Pro Val Gly Val Met Ala Pro Ala Ser Gly Pro
 20 25 30
 Ala Ser Thr Asp Ala Val Ser Ala Leu Leu Glu Gln Thr Ala Val Glu
 35 40 45
 Leu Glu Lys Arg Gln Glu Gly Arg Ser Ser Thr Gln Thr Leu Glu Asp
 50 55 60
 Ser Trp Arg Tyr Glu Glu Thr Ser Glu Asn Glu Ala Val Ala Glu Glu
 65 70 75 80
 Glu Glu Glu Glu Val Glu Glu Glu Gly Glu Glu Asp Val Phe Thr Glu
 85 90 95
 Lys Ala Ser Pro Asp Met Asp Gly Tyr Pro Ala Leu Lys Val Asp Lys
 100 105 110
 Glu Thr Asn Thr Glu Thr Pro Ala Pro Ser Pro Thr Val Val Arg Pro
 115 120 125
 Lys Asp Arg Arg Val Gly Thr Pro Ser Gln Gly Pro Phe Leu Arg Gly
 130 135 140
 Ser Thr Ile Ile Arg Ser Lys Thr Phe Ser Pro Gly Pro Gln Ser Gln
 145 150 155 160
 Tyr Val Cys Arg Leu Asn Arg Ser Asp Ser Asp Ser Ser Thr Leu Ser
 165 170 175
 Lys Lys Pro Pro Phe Val Arg Asn Ser Leu Glu Arg Arg Ser Val Arg
 180 185 190
 Met Lys Arg Pro Ser Pro Pro Pro Gln Pro Ser Ser Val Lys Ser Leu
 195 200 205
 Arg Ser Glu Arg Leu Ile Arg Thr Ser Leu Asp Leu Glu Leu Asp Leu
 210 215 220
 Gln Ala Thr Arg Thr Trp His Ser Gln Leu Thr Gln Glu Ile Ser Val
 225 230 235 240
 Leu Lys Glu Leu Lys Glu Gln Leu Glu Gln Ala Lys Ser His Gly Glu
 245 250 255
 Lys Glu Leu Pro Gln Trp Leu Arg Glu Asp Glu Arg Phe Arg Leu Leu
 260 265 270
 Leu Arg Met Leu Glu Lys Arg Gln Met Asp Arg Ala Glu His Lys Gly
 275 280 285
 Glu Leu Gln Thr Asp Lys Met Met Arg Ala Ala Lys Asp Val His
 290 295 300
 Arg Leu Arg Gly Gln Ser Cys Lys Glu Pro Pro Glu Val Gln Ser Phe
 305 310 315 320
 Arg Glu Lys Met Ala Phe Phe Thr Arg Pro Arg Met Asn Ile Pro Ala

325
Leu Ser Ala Asp Asp Val
340

330

335

<210> 3917
<211> 597
<212> DNA
<213> Homo sapiens

<400> 3917
ntttgtgctc tctgctggc taagtttttc acctactagg acgggggtgg ggtggggaga
60
acaggtgtcc ttctaaaata cagcacaagc tacagcctgc gtccagccat aacccaggag
120
taacatcaga aacaggtgag aatgaccact ttaactcacc gggcccgtcg cactgaaata
180
agcaagaact ctgaaaagaa gatggaaagt gaggaagaca gtaattggga gaaaagtcca
240
gacaatgaag attctggaga ctctaaggat atccgcctta ctcttatgga agaagtattg
300
cttctgggac taaaagataa agaggggtac acatctttct ggaatgactg catatcatca
360
ggcctgcgag ggggcatcct gatagagctg gccatgcggg gtcgaatcta tctggaaccc
420
ccgaccatgc gtaagaagcg actactagac agaaaggtag tgctaaagtc agacagccca
480
acaggtgatg ttttactgga tgaaactctg aaacacatca aagcaactga acccacagaa
540
actgtccaaa catggataga gctactcact ggtgagacct ggaacccctt caaatta
597

<210> 3918
<211> 152
<212> PRT
<213> Homo sapiens

<400> 3918
Met Thr Thr Leu Thr His Arg Ala Arg Arg Thr Glu Ile Ser Lys Asn
1 5 10 15
Ser Glu Lys Lys Met Glu Ser Glu Glu Asp Ser Asn Trp Glu Lys Ser
20 25 30
Pro Asp Asn Glu Asp Ser Gly Asp Ser Lys Asp Ile Arg Leu Thr Leu
35 40 45
Met Glu Glu Val Leu Leu Leu Gly Leu Lys Asp Lys Glu Gly Tyr Thr
50 55 60
Ser Phe Trp Asn Asp Cys Ile Ser Ser Gly Leu Arg Gly Gly Ile Leu
65 70 75 80
Ile Glu Leu Ala Met Arg Gly Arg Ile Tyr Leu Glu Pro Pro Thr Met
85 90 95
Arg Lys Lys Arg Leu Leu Asp Arg Lys Val Leu Leu Lys Ser Asp Ser
100 105 110
Pro Thr Gly Asp Val Leu Leu Asp Glu Thr Leu Lys His Ile Lys Ala
115 120 125
Thr Glu Pro Thr Glu Thr Val Gln Thr Trp Ile Glu Leu Leu Thr Gly

130
Glu Thr Trp Asn Pro Phe Lys Leu
145
135
150

140

<210> 3919
<211> 1278
<212> DNA
<213> Homo sapiens

<400> 3919
nntccggagg agctggaggc cctgtcgagg agcatggtgc tccacctgcg gaggtccatc
60
gaccagcggg acgagtgcac cgagctgata gtggacctca ctcaggaacg ggactacctg
120
caggcacagc atccaccacg ccccatcaag tcctccagcg ccgactccac tcccagcccc
180
accagcagcc tctctagcga agacaagcag cacctggccg tagagctggc cgacaccaag
240
gccaggctgc ggcgcgtcag gcaggagctg gaggataaga cagagcagct tgtggacacc
300
agacatgagg tggaccagct ggtgctggaa ctgcagaaaag ttaagcagga gaacatccag
360
ctagcggcag acgcccggtc tgctcgtgcc tatcgagacg agctggattc cctgcgggag
420
aaggcgaacc gcgtggagag gctggagctg gagctgacct gctgcaagga gaagctgcac
480
gacgtggact tctacaaggc ccgcatggag gagctgagag aagataatat cattttaatt
540
gaaaccaagg ccatgctgga ggaacagctg actgctgctc gggcccgggg cgataaagtc
600
catgagctgg aaaaggagaa cctgcagctg aaatccaagc ttcacgacct ggaattggac
660
cgggacacag ataagaaacg aattgaggag ctgctggaag aaaacatggt ccttgagatt
720
gcacagaagc agagcatgaa cgaatctgcc caccttggtt gggagctgga gcagctgtcc
780
aagaacgcag acttgctaga cgcctccagg aagtcgtttg tgtttgagct gaacgaatgt
840
gcgtccagcc gcatcctgaa gctggagaag gagaatcaga gcctccagag caccatccag
900
gggctgcggg acgcgtccct ggtgttgagg gagagcggcc tcaagtgcgg ggagctggag
960
aaggagaacc accagctcag caagaagatt gaaaagttac aaaccagct ggagagagaa
1020
aagcagagca accaagatct ggagaccctc agtgaggagc tgatcagaga gaaggagcag
1080
ctgcagagtg acatggagac cctgaaggct gacaaaagca ggagatcaa ggaccttgag
1140
caggaaaagg accacctcaa ccgagccatg tggtcgctgc gggagaggtc gcaggtcagc
1200
agtgaggccc gcatgaaaga cgtggagaag gagaacaaag ccctccacca gacggtgacg
1260
gaggccaatg gcaagctt
1278

<210> 3920
 <211> 426
 <212> PRT
 <213> Homo sapiens

<400> 3920

```

Xaa Pro Glu Glu Leu Glu Ala Leu Ser Arg Ser Met Val Leu His Leu
 1      5      10      15
Arg Arg Leu Ile Asp Gln Arg Asp Glu Cys Thr Glu Leu Ile Val Asp
 20      25      30
Leu Thr Gln Glu Arg Asp Tyr Leu Gln Ala Gln His Pro Pro Ser Pro
 35      40      45
Ile Lys Ser Ser Ser Ala Asp Ser Thr Pro Ser Pro Thr Ser Ser Leu
 50      55      60
Ser Ser Glu Asp Lys Gln His Leu Ala Val Glu Leu Ala Asp Thr Lys
 65      70      75      80
Ala Arg Leu Arg Arg Val Arg Gln Glu Leu Glu Asp Lys Thr Glu Gln
 85      90      95
Leu Val Asp Thr Arg His Glu Val Asp Gln Leu Val Leu Glu Leu Gln
100      105      110
Lys Val Lys Gln Glu Asn Ile Gln Leu Ala Ala Asp Ala Arg Ser Ala
115      120      125
Arg Ala Tyr Arg Asp Glu Leu Asp Ser Leu Arg Glu Lys Ala Asn Arg
130      135      140
Val Glu Arg Leu Glu Leu Glu Leu Thr Arg Cys Lys Glu Lys Leu His
145      150      155      160
Asp Val Asp Phe Tyr Lys Ala Arg Met Glu Glu Leu Arg Glu Asp Asn
165      170      175
Ile Ile Leu Ile Glu Thr Lys Ala Met Leu Glu Glu Gln Leu Thr Ala
180      185      190
Ala Arg Ala Arg Gly Asp Lys Val His Glu Leu Glu Lys Glu Asn Leu
195      200      205
Gln Leu Lys Ser Lys Leu His Asp Leu Glu Leu Asp Arg Asp Thr Asp
210      215      220
Lys Lys Arg Ile Glu Glu Leu Leu Glu Glu Asn Met Val Leu Glu Ile
225      230      235      240
Ala Gln Lys Gln Ser Met Asn Glu Ser Ala His Leu Gly Trp Glu Leu
245      250      255
Glu Gln Leu Ser Lys Asn Ala Asp Leu Ser Asp Ala Ser Arg Lys Ser
260      265      270
Phe Val Phe Glu Leu Asn Glu Cys Ala Ser Ser Arg Ile Leu Lys Leu
275      280      285
Glu Lys Glu Asn Gln Ser Leu Gln Ser Thr Ile Gln Gly Leu Arg Asp
290      295      300
Ala Ser Leu Val Leu Glu Glu Ser Gly Leu Lys Cys Gly Glu Leu Glu
305      310      315      320
Lys Glu Asn His Gln Leu Ser Lys Lys Ile Glu Lys Leu Gln Thr Gln
325      330      335
Leu Glu Arg Glu Lys Gln Ser Asn Gln Asp Leu Glu Thr Leu Ser Glu
340      345      350
Glu Leu Ile Arg Glu Lys Glu Gln Leu Gln Ser Asp Met Glu Thr Leu
355      360      365
Lys Ala Asp Lys Ala Arg Gln Ile Lys Asp Leu Glu Gln Glu Lys Asp

```

```

      370              375              380
His Leu Asn Arg Ala Met Trp Ser Leu Arg Glu Arg Ser Gln Val Ser
385              390              395              400
Ser Glu Ala Arg Met Lys Asp Val Glu Lys Glu Asn Lys Ala Leu His
      405              410              415
Gln Thr Val Thr Glu Ala Asn Gly Lys Leu
      420              425

```

<210> 3921
 <211> 413
 <212> DNA
 <213> Homo sapiens

<400> 3921
 tctagaaagg tcaggcaccg gacagctgaa accatggcag ccggcaacag gaagtgcctt
 60
 ccctgggtgc tcaaagatcc aagacagccg ggccctgtgt ttgtaggaaac aagattccag
 120
 atgcctctgc tgcttgccag cctcgtgacc ttcattcatg cagggccttg ttttcttgat
 180
 tcagtggggc caatcccgcc cccaggggga gatggatgct gcagggatgt gcaagctgta
 240
 gagggttcca gagaatgggc ctggcggttct gcaagcctgg caccctcctt ggatgctttt
 300
 ctccagccct tggagcttag gcagtgtagt gttaggatga ttattggatt tcctccacag
 360
 ttccctggctc attcttttgt agcccttggt acagcctttt gtgataatat tgg
 413

<210> 3922
 <211> 126
 <212> PRT
 <213> Homo sapiens

<400> 3922
 Met Ala Ala Gly Asn Arg Lys Cys Pro Pro Trp Val Leu Lys Asp Pro
 1 5 10 15
 Arg Gln Pro Gly Pro Val Phe Val Gly Thr Arg Phe Gln Met Pro Leu
 20 25 30
 Leu Leu Ala Ser Leu Val Thr Phe Ile His Ala Gly Pro Cys Phe Leu
 35 40 45
 Asp Ser Val Gly Pro Ile Pro Ala Pro Arg Gly Asp Gly Cys Cys Arg
 50 55 60
 Asp Val Gln Ala Val Glu Gly Ser Arg Glu Trp Ala Trp Arg Ser Ala
 65 70 75 80
 Ser Leu Ala Pro Leu Leu Asp Ala Phe Leu Gln Pro Leu Glu Leu Arg
 85 90 95
 Gln Cys Ser Val Arg Met Ile Ile Gly Phe Pro Pro Gln Phe Leu Ala
 100 105 110
 His Ser Phe Val Ala Leu Val Thr Ala Phe Cys Asp Asn Ile
 115 120 125

<210> 3923
 <211> 820

<212> DNA

<213> Homo sapiens

<400> 3923

ggctgacccc cggccatggt gctggaccgt aggagatact gatccacact tccttttcgc
 60
 cggctcacag tccgcctctc attgtcgaac atgcgctgca actgcagagc caactgtcgg
 120
 tcttcttctc cttgctgaag cttctgctcc atctctcgca ggactgggtc tgttggggcc
 180
 agaccacact cccactgggt ttgtcgcagt tttttaaggg agccattttg ttctaagtgc
 240
 ttggtcttgc agtgtctttt ccggcctcga cgcaaagaag gaagtggctc ttcacttagg
 300
 ctctcaacta gaacaccatt agtcagatca aaatgattta atgtcttcaa ttgttgcttt
 360
 gttttgagga ctccacccaa aacactgttt tggggtagca ctgaattaac tgtggtgatt
 420
 ttcattggctc tgcttatata ggttttgtct aacttggcat ctggagttga ccctaacccc
 480
 tcaaaactgt ccctctccaa agaagtccca ctgcctcccc ctttgagttc tgaggaacag
 540
 caggtttcca gtgggatctc agtgctactt ttattatcac tgtcctgttc tgcttttgtt
 600
 tggctaacag aggggaaatg atcaagatca gcagaggtgg gtccagtata ctcagagagg
 660
 acctgcccac cagataatct tgtatttaca gccacaagtg gcttctcctt gctagaatgg
 720
 ataccttcag agcctagtaa ctcttccccc atttcaggag ccagagaggt aagagtgggt
 780
 tttgaaaggg tctttttgat ctgccgctcc tgaaagatct
 820

<210> 3924

<211> 250

<212> PRT

<213> Homo sapiens

<400> 3924

Met	Gly	Glu	Glu	Leu	Gly	Ser	Glu	Gly	Ile	His	Ser	Ser	Lys	Glu
1				5				10					15	
Lys	Pro	Leu	Val	Ala	Val	Asn	Thr	Arg	Leu	Ser	Gly	Gly	Gln	Val
			20					25					30	
Ser	Glu	Tyr	Thr	Gly	Pro	Thr	Ser	Ala	Asp	Leu	Asp	His	Phe	Pro
		35					40					45		
Val	Ser	Gln	Thr	Lys	Ala	Glu	Gln	Asp	Ser	Asp	Asn	Lys	Ser	Ser
		50				55				60				
Glu	Ile	Pro	Leu	Glu	Thr	Cys	Cys	Ser	Ser	Glu	Leu	Lys	Gly	Gly
65					70					75				80
Ser	Gly	Thr	Ser	Leu	Glu	Arg	Glu	Gln	Phe	Glu	Gly	Leu	Gly	Ser
			85					90					95	
Pro	Asp	Ala	Lys	Leu	Asp	Lys	Thr	Cys	Ile	Ser	Arg	Ala	Met	Lys
			100					105					110	
Thr	Thr	Val	Asn	Ser	Val	Leu	Pro	Gln	Asn	Ser	Val	Leu	Gly	Gly

115	120	125
Leu Lys Thr Lys Gln Gln	Leu Lys Thr Leu Asn His	Phe Asp Leu Thr
130	135	140
Asn Gly Val Leu Val Glu Ser	Leu Ser Glu Glu Pro Leu Pro Ser Leu	
145	150	155
Arg Arg Gly Arg Lys Arg His Cys Lys Thr Lys His	Leu Glu Gln Asn	160
165	170	175
Gly Ser Leu Lys Lys Leu Arg Gln Thr Ser Gly Glu Val Gly Leu Ala		190
180	185	190
Pro Thr Asp Pro Val Leu Arg Glu Met Glu Gln Lys Leu Gln Gln Glu		205
195	200	205
Glu Glu Asp Arg Gln Leu Ala Leu Gln Leu Gln Arg Met Phe Asp Asn		220
210	215	220
Glu Arg Arg Thr Val Ser Arg Arg Lys Gly Ser Val Asp Gln Tyr Leu		240
225	230	235
Leu Arg Ser Ser Asn Met Ala Gly Gly Arg		250
245	250	

<210> 3925

<211> 3296

<212> DNA

<213> Homo sapiens

<400> 3925

```

nggagaactg gggacactct gggccggcct tctgcctgca tggacgctct gaagccaccc
60
tgtctctgga ggaaccacga gcgaggaag aaggacaggg actcgtgtgg caggaagaac
120
tcagagccgg gaagccccc ttcactagaa gcactgagag atgcggcccc ctgcaggggt
180
ctgaatttcc tgctgctggt cacaagatg ctttttatct ttaacttttt gttttcccca
240
cttcgacccc cggcgttgat ctgcatcctg acatttggag ctgccatctt cttgtggctg
300
atcaccagac ctcaaccctt cttacctt cttgacctga acaatcagtc tgtgggaatt
360
gagggaggag caggaaggg gggttcccag aagaacaatg acctaacaag ttgctgcttc
420
tcagatgcca agactatgta tgaggttttt caaagaggac tcgctgtgtc tgacaatggg
480
ccctgcttgg gatatagaaa accaaaccag ccctacagat ggctatctta caaacagggt
540
tctgatagag cagagtacct gggttcctgt ctcttgcata aaggttataa atcatcacca
600
gaccagtttg tcggcatctt tgetcagaat aggccagagt ggatcatctc cgaattggct
660
tgttacacgt actctatggt agctgtacct ctgtatgaca cttggggacc agaagccatc
720
gtacatattg tcaacaaggc tgatatcgcc atggtgatct gtgacacacc ccaaaaggca
780
ttggtgctga tagggaatgt agagaaaggc ttcaccccgga gcctgaagggt gatcatcctt
840
atggaccctt ttgatgatga cctgaagcaa agagggggaga agagtggaaat tgagatctta
900

```

tccctatatg atgctgagaa cctagacaaa gagcacttca gaaaacctgt gcctcctagc
 960
 ccagaagacc tgagcgcat ctgcttcacc agtgggacca caggtgaccc caaaggagcc
 1020
 atgataaccc atcaaaatat tgtttcaa atgctgctgcct ttctcaa atg tgtggagcat
 1080
 gcttatgagc cactcctga tgatgtggcc atatcctacc tccctctggc tcatatgttt
 1140
 gagaggattg tacaggctgt tgtgtacagc tgtggagcca gagttggatt cttccaaggg
 1200
 gatattcggg tgctggctga cgacatgaag actttgaagc ccacattgtt tcccgcgggtg
 1260
 cctcgactcc ttaacaggat ctacgataag gtacaaa atg aggccaaagc acccttgaag
 1320
 aagtcttgt tgaagctggc tgtttccagt aaattcaa agcttcaaaa gggatcatc
 1380
 aggcataata gtttctggga caagctcatc ttgcaaaga tccaggacag cctgggcgga
 1440
 agggctcgtg taattgtcac tggagccgcc cccatctcca ctccagtctt gacattcttc
 1500
 cgggcagcaa tgggatgttg ggtgtttgaa gcttatggc aaacagaatg cacagggtggc
 1560
 tgtacattta cattacctgg ggactggaca tcaggctcacg ttgggggtgcc cctggcttgc
 1620
 aattacgtga agctggaaga tgtggctgac atgaactact ttacagtga taatgaagga
 1680
 gaggtctgca tcaagggtac aaacgtgttc aaaggatacc tgaaggaccc tgagaagaca
 1740
 caggaaagccc tggacagtga tggctggctt cacacaggag acattggctg ctggctcccg
 1800
 aatggaactc tgaagatcat cgaccgtaaa aagaacattt tcaagctggc ccaaggagaa
 1860
 tacattgcac cagagaagat agaaaatc tacaacagga gtcaaccagt gttacaaatt
 1920
 tttgtacagc gggagagctt acggtcatcc ttagtaggag tgggtgggtcc tgacacagat
 1980
 gtacttccct catttgcagc caagcttggg gtgaagggt cctttgagga actgtgcca
 2040
 aaccaagttg taagggaagc cattttagaa gacttgcaga aaattgggaa agaaagtggc
 2100
 cttaaaactt ttgaacaggc caaagccatt tttcttcac cagagccatt ttccattgaa
 2160
 aatgggctct tgacaccaac attgaaagca aagcgaggag agctttccaa atactttcgg
 2220
 acccaaattg acagcctgta tgagcacatc caggattagg ataaggctact taagtacctg
 2280
 ccggcccact gtgcactgct tgtgagaaaa tggattaaaa actattctta catttgtttt
 2340
 gcctttcctc ctattttttt ttaacctgtt aaactctaaa gccatagctt ttgttttata
 2400
 ttgagacata taatgtgtaa acttagttcc caaataaatc aatcctgtct ttcccatctt
 2460
 cgatgttgct aaatattaagg cttcagggtc acttttatca acatgcctgt cttcaagatc
 2520

ccagtttatg ttctgtgtcc ttcctcatga tttccaacct taatactatt agtaaccaca
 2580
 agttcaaggg tcaaagggac cctctgtgcc ttcttctttg ttttgtgata aacataactt
 2640
 gccaacagtc tctatgctta tttacatctt ctactgttca aactaagaga tttttaaatt
 2700
 ctgaaaaact gcttacaatt catgttttct agccactcca caaaccacta aaattttagt
 2760
 tttagcctat cactcatgtc aatcatatct atgagacaaa tgtctccgat gctcttctgc
 2820
 gtaaattaaa ttgtgtactg aagggaaaag tttgatcata ccaaactttt cctaaactct
 2880
 ctagttagat atctgacttg ggagtattaa aaattgggtc tatgacatac tgtccaaaag
 2940
 gaatgctgtt cttaaagcat tatttacagt aggaactggg gagtaaactt gttccctaca
 3000
 gtttgctgct gagctggaag ctgtggggga aggagttgac aggtggggccc agtgaacttt
 3060
 tccagtaaat gaagcaagca ctgaataaaa acctcctgaa ctgggaacaa agatctacag
 3120
 gcaagcaaga tgcccacaca acaggcttat tttctgtgaa ggaaccaact gatctcccc
 3180
 acccttggat tagagttcct gctctacctt acccacagat aacacatgct gtttctactt
 3240
 gtaaatgtaa agtcttttaa ataaactatt acagatactt aaaaaaaaaa aaaaaa
 3296

<210> 3926

<211> 683

<212> PRT

<213> Homo sapiens

<400> 3926

Met	Leu	Phe	Ile	Phe	Asn	Phe	Leu	Phe	Ser	Pro	Leu	Pro	Thr	Pro	Ala
1				5					10					15	
Leu	Ile	Cys	Ile	Leu	Thr	Phe	Gly	Ala	Ala	Ile	Phe	Leu	Trp	Leu	Ile
			20					25					30		
Thr	Arg	Pro	Gln	Pro	Val	Leu	Pro	Leu	Leu	Asp	Leu	Asn	Asn	Gln	Ser
			35					40					45		
Val	Gly	Ile	Glu	Gly	Gly	Ala	Arg	Lys	Gly	Val	Ser	Gln	Lys	Asn	Asn
			50				55				60				
Asp	Leu	Thr	Ser	Cys	Cys	Phe	Ser	Asp	Ala	Lys	Thr	Met	Tyr	Glu	Val
65				70						75				80	
Phe	Gln	Arg	Gly	Leu	Ala	Val	Ser	Asp	Asn	Gly	Pro	Cys	Leu	Gly	Tyr
			85						90					95	
Arg	Lys	Pro	Asn	Gln	Pro	Tyr	Arg	Trp	Leu	Ser	Tyr	Lys	Gln	Val	Ser
			100					105					110		
Asp	Arg	Ala	Glu	Tyr	Leu	Gly	Ser	Cys	Leu	Leu	His	Lys	Gly	Tyr	Lys
			115				120					125			
Ser	Ser	Pro	Asp	Gln	Phe	Val	Gly	Ile	Phe	Ala	Gln	Asn	Arg	Pro	Glu
			130				135					140			
Trp	Ile	Ile	Ser	Glu	Leu	Ala	Cys	Tyr	Thr	Tyr	Ser	Met	Val	Ala	Val
145				150						155				160	
Pro	Leu	Tyr	Asp	Thr	Leu	Gly	Pro	Glu	Ala	Ile	Val	His	Ile	Val	Asn

```

165      170      175
Lys Ala Asp Ile Ala Met Val Ile Cys Asp Thr Pro Gln Lys Ala Leu
180      185      190
Val Leu Ile Gly Asn Val Glu Lys Gly Phe Thr Pro Ser Leu Lys Val
195      200      205
Ile Ile Leu Met Asp Pro Phe Asp Asp Asp Leu Lys Gln Arg Gly Glu
210      215      220
Lys Ser Gly Ile Glu Ile Leu Ser Leu Tyr Asp Ala Glu Asn Leu Asp
225      230      235      240
Lys Glu His Phe Arg Lys Pro Val Pro Pro Ser Pro Glu Asp Leu Ser
245      250      255
Val Ile Cys Phe Thr Ser Gly Thr Thr Gly Asp Pro Lys Gly Ala Met
260      265      270
Ile Thr His Gln Asn Ile Val Ser Asn Ala Ala Ala Phe Leu Lys Cys
275      280      285
Val Glu His Ala Tyr Glu Pro Thr Pro Asp Asp Val Ala Ile Ser Tyr
290      295      300
Leu Pro Leu Ala His Met Phe Glu Arg Ile Val Gln Ala Val Val Tyr
305      310      315      320
Ser Cys Gly Ala Arg Val Gly Phe Phe Gln Gly Asp Ile Arg Leu Leu
325      330      335
Ala Asp Asp Met Lys Thr Leu Lys Pro Thr Leu Phe Pro Ala Val Pro
340      345      350
Arg Leu Leu Asn Arg Ile Tyr Asp Lys Val Gln Asn Glu Ala Lys Thr
355      360      365
Pro Leu Lys Lys Phe Leu Leu Lys Leu Ala Val Ser Ser Lys Phe Lys
370      375      380
Glu Leu Gln Lys Gly Ile Ile Arg His Asp Ser Phe Trp Asp Lys Leu
385      390      395      400
Ile Phe Ala Lys Ile Gln Asp Ser Leu Gly Gly Arg Val Arg Val Ile
405      410      415
Val Thr Gly Ala Ala Pro Ile Ser Thr Pro Val Leu Thr Phe Phe Arg
420      425      430
Ala Ala Met Gly Cys Trp Val Phe Glu Ala Tyr Gly Gln Thr Glu Cys
435      440      445
Thr Gly Gly Cys Thr Phe Thr Leu Pro Gly Asp Trp Thr Ser Gly His
450      455      460
Val Gly Val Pro Leu Ala Cys Asn Tyr Val Lys Leu Glu Asp Val Ala
465      470      475      480
Asp Met Asn Tyr Phe Thr Val Asn Asn Glu Gly Glu Val Cys Ile Lys
485      490      495
Gly Thr Asn Val Phe Lys Gly Tyr Leu Lys Asp Pro Glu Lys Thr Gln
500      505      510
Glu Ala Leu Asp Ser Asp Gly Trp Leu His Thr Gly Asp Ile Gly Arg
515      520      525
Trp Leu Pro Asn Gly Thr Leu Lys Ile Ile Asp Arg Lys Lys Asn Ile
530      535      540
Phe Lys Leu Ala Gln Gly Glu Tyr Ile Ala Pro Glu Lys Ile Glu Asn
545      550      555      560
Ile Tyr Asn Arg Ser Gln Pro Val Leu Gln Ile Phe Val His Gly Glu
565      570      575
Ser Leu Arg Ser Ser Leu Val Gly Val Val Val Pro Asp Thr Asp Val
580      585      590
Leu Pro Ser Phe Ala Ala Lys Leu Gly Val Lys Gly Ser Phe Glu Glu

```

595	600	605
Leu Cys Gln Asn Gln Val Val Arg Glu Ala Ile Leu Glu Asp Leu Gln		
610	615	620
Lys Ile Gly Lys Glu Ser Gly Leu Lys Thr Phe Glu Gln Val Lys Ala		
625	630	635
Ile Phe Leu His Pro Glu Pro Phe Ser Ile Glu Asn Gly Leu Leu Thr		640
	645	650
Pro Thr Leu Lys Ala Lys Arg Gly Glu Leu Ser Lys Tyr Phe Arg Thr		655
	660	665
Gln Ile Asp Ser Leu Tyr Glu His Ile Gln Asp		670
675	680	

<210> 3927

<211> 3197

<212> DNA

<213> Homo sapiens

<400> 3927

cagagcccca tgaattaggt cccctcaatg gggacacagc tataactgtc cagctctgtg
60
catcagagga ggctgagcgg caccagaagg atataaccag aattctccag caacatgagg
120
aggaaaagaa gaaatgggca caacaggtgg agaaggaaag ggagctagag cttcgagaca
180
gactggatga gcagcaaagg gtcctggaag gaaagaatga agaggccctg caagtctctc
240
gggcctcata tgaacaggag aaagaagcgc ttaccactc tttccgggag gccagttcta
300
cccagcagga gaccatagac agactgacct cacagctgga ggctttccag gccaaaatga
360
agagggtgga ggagtccatt ctgagccgaa actataagaa acatatccag gattatggga
420
gccccagcca gttctgggag caggagctgg agagcttaca ctttgtcatc gagatgaaga
480
atgagcgtat tcatgagctg gacaggcggc tgatcctcat ggaaacagtg aaagagaaaa
540
atctgatatt ggaggaaaaa attacgacct tgcaacagga aaatgaggac ctccatgtcc
600
gaagccgcaa ccaggtgggc ctgtcaaggc agctgtcaga agacctgctt ctcacgcgtg
660
aggccctgga gaaggaggtg cagctgcggc gacagctcca gcaggagaag gaggagctgt
720
tgtaccgggt ccttggggcc aatgcctcgc ctgccttccc tctggcccct gtactccca
780
ctgaggtctc tttcctcgcc acataggggt cagggcctgg gccaccacg acgcctgaag
840
tcacagctcc ttccaagggt tttctggaga agacagcagg agcctctcag ttcttttcca
900
ggaaggaacg aggggtgggag cgagatggag atcctgggtg tgtgcccagt gagccctggg
960
gccttgagtt acatggaatc acccacaggg ttttggaggc cccgagaagc gtcttccctt
1020
gagttggcca agggaataag caagaggaga catttcctcc ctgccccagc actctgtccc
1080

aatccgagaa gttccgaggc tttcccaggg gcagtctgtg tcacgctggc catttgacat
1140
aaaggagaca gcccctggtc ccagcttgct agctctgtg cgcacttgct gacttatcaa
1200
cttcctctag gtgtttccac tccaccctgg cctgctcaga gcctcagttt acccctgcat
1260
taaaatggtg gggggactgg tcaaaggact cttatgtcac tgcagtgtcc cattctagga
1320
ttgtctgaag gccagagtag ggggtggggg gagtgtggac aaaccccgca aatcagagtg
1380
gggaagggtg gtggtggaga ggggggtctct gaaggccctt ggggctgaca gggccaggca
1440
gcctccccag ctgaggcatc attcctgggc cagagtcgtg tccaccaagg gacagtagcc
1500
agagctcttc ttcctttacc aggcaagggt catccctca gccctcctgg cccttcagtc
1560
ttggtgccac ctgggcacag gggcaagctt ggtgggtgtg agtcattca tctatcagag
1620
ctggaacctc atccctgcac agatgaggaa accaaggcat ggagcagttc ccagagtcga
1680
atctagatct catctgtcat ccgggtctta tcctttgtc tgtttttctc ttcaggctct
1740
ggaaaatcag atctgtgact taatcctctc cctggccctc acccacttag tttctttttc
1800
attcctgtc cctgccttaa ctctcctcc cactgccct gatcccaggc ccaggctttt
1860
acaacctggt gtcagcttc cccatcagtg aaaaggggtg gctagagtaa ctaacctcag
1920
caggccgtcc agtcctgata gtctgtggat ttcggatcct tctcaggaag cttcatgtct
1980
aatggagact ataattataa ctctgttct gcatagagca tttgcatcaa aggctttcca
2040
taccctccc tcccctggtc ctcataagat ccttgaagca ggttcctatt cctcattggc
2100
aacatggcaa acagatcaca ggagtcaaag ggccttgctc aagggtccca gcttcagccc
2160
caggccctaa gccagcgtca gaacagtcaa tctgcatttt tcatcagtc tctatagtg
2220
acatcatccc agactgcctt ctgtattccc ctgtgtacag tctccttctg tttctaggtt
2280
tagaagttca gaggtgactg tgtttctcca tttccacagc caaatggggg aagaggtgag
2340
gctaggggag tgctgtgctg attctccagc catggtcaga caggtcaccc aggagcctcg
2400
aggaaagccc tggagggaat cacatgtgta ctttttcatg aagctttttg caaagcacat
2460
ctgcgatata ctagtttatt gaactaatgt ccaggagtag acatgattgg tggccaagtt
2520
at ttggggac acctaaacag atcagtgacc tgaatgactt ctcagaacct ttaatatgcc
2580
aatgtgtgtg gcaaacttac aagaagggtg ctaagtatcc agcctctccc aaacctcttt
2640
gaacaaagct tctgtccctc ccacacctct cacctcacag gcacatcagg ctgcagaatg
2700

cgcttttagaa agcattgttt tagtccaggc acagtggctc acgcctgtaa tcccagcact
 2760
 ttgggaggcc gaggtgggtg gatcacaagg ttgggagatt gagaccatcc tggctaacac
 2820
 agtgaaaccc tgtctctact aaaaaaatac aaaaaattag cttggcgtgg tgggtgggcgc
 2880
 ctgtagtccc agcagcttgg gaggctgagg ctggagaatg gtgtgaaccc aggaggcgga
 2940
 gcttgcaatg agccaagatc gcgccactgc actccagccc gggtagacaga gcaagactcc
 3000
 gtctcaaaaa aaagaaaaga aaaaagaaag cattgtttta attgagaggg gcagggtggtg
 3060
 agaaggagca agttgtgggg agccaggctt ccctcacgca gcctgtggtg gatgtgggaa
 3120
 ggagatcaac ttctcctcac tctgggacag acgatgtatg gaaactaaaa agaacatgag
 3180
 gcaccttaaa aaaaaaa
 3197

<210> 3928

<211> 180

<212> PRT

<213> Homo sapiens

<400> 3928

Met	Ser	Glu	Ala	Ala	Thr	Arg	Trp	Ser	Cys	Gln	Gly	Ser	Cys	Gln	Lys
1				5					10					15	
Thr	Cys	Phe	Ser	Arg	Val	Arg	Pro	Trp	Arg	Arg	Arg	Cys	Ser	Cys	Gly
			20					25					30		
Asp	Ser	Ser	Ser	Arg	Arg	Arg	Arg	Ser	Cys	Cys	Thr	Gly	Ser	Leu	Gly
		35					40					45			
Pro	Met	Pro	Arg	Leu	Pro	Ser	Leu	Trp	Pro	Leu	Ser	Leu	Pro	Leu	Arg
	50					55				60					
Ser	Leu	Ser	Ser	Pro	His	Arg	Val	Gln	Gly	Leu	Gly	Pro	Pro	Arg	Arg
65					70				75					80	
Leu	Lys	Ser	Gln	Leu	Leu	Pro	Arg	Phe	Phe	Trp	Arg	Arg	Gln	Gln	Glu
			85					90					95		
Pro	Leu	Ser	Ser	Phe	Pro	Gly	Arg	Asn	Glu	Gly	Gly	Ser	Glu	Met	Glu
			100				105						110		
Ile	Leu	Gly	Val	Cys	Pro	Val	Ser	Pro	Gly	Ala	Leu	Ser	Tyr	Met	Glu
		115					120					125			
Ser	Pro	Thr	Gly	Phe	Trp	Arg	Pro	Arg	Glu	Ala	Ser	Ser	Leu	Glu	Leu
	130					135					140				
Ala	Lys	Gly	Ile	Ser	Lys	Arg	Arg	His	Phe	Leu	Pro	Ala	Pro	Ala	Leu
145					150					155				160	
Cys	Pro	Asn	Pro	Arg	Ser	Ser	Glu	Ala	Phe	Pro	Gly	Ala	Val	Cys	Val
			165					170					175		
Thr	Leu	Ala	Ile												
			180												

<210> 3929

<211> 470

<212> DNA

<213> Homo sapiens

<400> 3929

ntcctttctt tagccagcca tcctggtact gtagtttagg ggttgatggt ggttgaaatt
 60
 gattttctggc tggttactaa ggtgtctggc tgactttgtc ctaaataagg ctaacattag
 120
 tgaactaaga acagcgtcac gtggtggcca tgcttggctc tcaggagcac ccctccccga
 180
 tgcgctggca ggagcgcccc actttccggt ccagattcac agtctgagaa tgaggcttca
 240
 ccagtaaaac ggccacgact acttgagaat acggaacggt ccgaggaaac cagtcgatct
 300
 aaacagaaga gtcgacgtcg gtgcttccag tgccaaacca aactggagct ggtgcagcag
 360
 gaattgggat cgtgtcgctg cggttatgtg ttctgtatgt tacatcgctt ccccgagcag
 420
 cagcactgca cattcgacca catgggcgtg gccgggagaa gccatcatga
 470

<210> 3930

<211> 115

<212> PRT

<213> Homo sapiens

<400> 3930

Thr	Lys	Asn	Ser	Val	Thr	Trp	Trp	Pro	Cys	Leu	Val	Phe	Arg	Ser	Thr
1				5				10						15	
Pro	Pro	Arg	Cys	Ala	Gly	Arg	Ser	Ala	Pro	Leu	Ser	Gly	Pro	Asp	Ser
			20					25					30		
Gln	Ser	Glu	Asn	Glu	Ala	Ser	Pro	Val	Lys	Arg	Pro	Arg	Leu	Leu	Glu
		35					40					45			
Asn	Thr	Glu	Arg	Ser	Glu	Glu	Thr	Ser	Arg	Ser	Lys	Gln	Lys	Ser	Arg
	50					55					60				
Arg	Arg	Cys	Phe	Gln	Cys	Gln	Thr	Lys	Leu	Glu	Leu	Val	Gln	Gln	Glu
65				70					75					80	
Leu	Gly	Ser	Cys	Arg	Cys	Gly	Tyr	Val	Phe	Cys	Met	Leu	His	Arg	Leu
			85					90					95		
Pro	Glu	Gln	His	Asp	Cys	Thr	Phe	Asp	His	Met	Gly	Val	Ala	Gly	Arg
			100					105					110		
Ser	His	His													
			115												

<210> 3931

<211> 3568

<212> DNA

<213> Homo sapiens

<400> 3931

nnactagtac agtgagggaa tttgacaaaa tntcattggt tactggtaca ctgacctaac
 60
 atgctgtgtg gaccaacaca aatgaaacca taagacaata cttcccaaat attttaattt
 120
 tgaaatagat atacttaatg gctgatgacc cagtatcttt ggtgtcctct aaccacatta
 180

gcattctata atttcaaag aaatctatac tttaaaaaca attaatgtca aattttgtca
240
taatatctga ctttcaggcc aacttttaac gttagtacaa tttaaaataa aaagtcatta
300
acatttttaac gtaatactga ataattctct gtggaattta tcttttacat ttttttcctt
360
ttaagcaaaa agagatttac agtttataat ggtaaagact ctactacttc agaatacaag
420
ccaaatcaat attacttaac aattcaggga aaatttagat aaaatcacta gacaacggta
480
aactgatatt cttatctact cataaaatta tttttgaatt gcaaacgaac cgctatgcgt
540
ggctaattta ggaagaaaaa tttttttttt tttttttgag actgagtctc gctctgtcac
600
caggctggaa tgcagtggcg tgatcttggc tcaatgcaac ctccacctcc cagggtcaag
660
cgattctctg gcctcagcct cttgactagc tgggactaca ggtgtgtgcc accacatcca
720
gctaattttt gtatttttag tagagacggg gtttcaccat gttggccagg atggtctcaa
780
cctcttgacc tcgtgatcca cctgcctcgg tctcccaaag tgggtgggatt acaggcgtga
840
gccactgtgc ccagccagaa aagcattttt aatagaattt tgatagctct taactgagat
900
cctaaatcaa ggatttagaa atgaggtatc ataaagaata gtaagatttt aaagctctca
960
aaattacata tgatacaaat aaagattgta acagtattta atcattgttt caaactttat
1020
tacttaatga aacagtttct atatactgct tccaattact ttaatccttt tttctcgta
1080
aatttttttt gttgttcttc agttgagctg agatactttt aattactttt tattaactgc
1140
ttccagaaac cgtaacaggt gcaggaatag attgatgata tccaagtaga ggctgatggc
1200
agctaatacg tactcttcag gtgacagttt atgcatcagt gagtgtgtgt catagatgat
1260
gaatccacag aaaagaaggg ctctgcagc ggctaagacc aactccatta tctcactata
1320
aaaaaaaaac ttcaagaatc ctgacaggca caatatccac aaaagagcaa acagccctgc
1380
tccaaatttg ctgaaatcct tcttagattg tagagtatac acagtcaaac caaaaaatac
1440
tgtagtagtc agtatgaaag cttgcagaat aatatataca tcatagaaag taacaacaac
1500
tgccacagtc agagcttcca acagcgtaaa tccaaaaagt aggtacaggt taaggggata
1560
cttatgtctg tttaaaatca acgcaaaaat caaaccaga gatccgaggg caaacagcaa
1620
aattaaggca ggactctcat gtacaaatgt cgtacagac tcaaagtata aaaaaactgt
1680
tgaagtcact gtagttaaga gaacctgcag agaaagaatg ctgtagactt ttctcagaaa
1740
ggctgtattt taccacaatt aatttttttt aaaaaaagc tgagttcact ggccaaaata
1800

atttcaaaat tcaattccaa aaatataaat gctaggcacc aagattcttg gtgcatcaga
1860
actatcttca tctttccttt tccagaacaa gttctaggca ctaagattct tagcacatca
1920
gaactatctt catctttcct tttccagaac aagttccagc tgcctaaaca ggctgaaagt
1980
ctggggctgt ttcggcgatc aaatgaccaa actagagcag gcaatggctt ccacgtagat
2040
gaagctgagc attttaaatt caaaaatttc tgccattgg ctactacgta ataacttaaa
2100
acacaattta gactgactta ggaagcttct gtgttgagca acttcctcaa taatcctcaa
2160
agacctgttg cattctgggc cccattcgga tgtgcatggg ggcgagggcc acactgctgc
2220
cattattgga agtcgtcttc gatcgaggag cgagggtact gggggtcggg gtcagccatc
2280
atggcaccag cacccttcg gtcccagtc actcgctcct cgatcgagga cgacttcaac
2340
tatggcagca gcgtggcctc cgccaccgtg cacatccgaa tggcctttct gagaaaagt
2400
tacagcattc tttctctgca ggttctctta actacagtga cttcaacagt tttttatac
2460
tttgagtctg tacggacatt tgtacatgag agtcctgcct taattttgct gtttgccctc
2520
ggatctctgg gtttgatttt tgcgttgact ttaaacagac ataagtatcc ccttaacctg
2580
tacctacttt ttggatttac gctgttgga gctctgactg tggcagttgt tgttactttc
2640
tatgatgtat atattattct gcaagctttc atactgacta ctacagtatt ttttggtttg
2700
actgtgtata ctctacaatc taagaaggat ttcagcaaat ttggagcagg gctgtttgct
2760
cttttggtga tattgtgcct gtcaggattc ttgaagtttt ttttttatag tgagataatg
2820
gagttggtct tagccgctgc aggagccctt cttttctgtg gattcatcat ctatgacaca
2880
cactcactga tgcataaact gtcacctgaa gagtacgtat tagctgccat cagcctctac
2940
ttggatatca tcaatctatt cctgcacctg ttacggtttc tggaagcagt taataaaaag
3000
taattaaaag tatctcagct caactgaaga acaacaaaaa aaatttaacg agaaaaaagg
3060
attaaagtaa ttggaagcag tatatagaaa ctgtttcatt aagtaataaa gtttgaaaca
3120
atgattaaat actgttacia tctttatttg tatcatatgt aattttgaga gctttaaaat
3180
cttactattc tttatgatac ctcatctcta aatccttgat ttaggatctc agttaagagc
3240
tatcaaaatt ctattaaaaa tgcttttctg gctgggcaca gtggctcacg cctgtaatcc
3300
caccactttg ggagaccgag gcaggtggat cagaggtca agaggttgag accatcctgg
3360
ccaacatggg gaaaccccgct ctctactaaa aatacaaaaa ttagctggat gtggtggcac
3420

acacctgtag tcccagctag tcaagaggct gaggccagag aatcgcttga acctgggagg
 3480
 tggagggtgc attgagccaa gatcacgcca ctgcattcca gcctggtgac agagcgagac
 3540
 tcagtctcaa aaaaaaaaaa aaaaaaaaaa
 3568

<210> 3932

<211> 293

<212> PRT

<213> Homo sapiens

<400> 3932

Glu	Ala	Ser	Val	Leu	Ser	Asn	Phe	Leu	Asn	Asn	Pro	Gln	Arg	Pro	Val
1				5				10					15		
Ala	Phe	Trp	Ala	Pro	Phe	Gly	Cys	Ala	Trp	Trp	Arg	Arg	Pro	His	Cys
			20					25					30		
Cys	His	Tyr	Trp	Lys	Ser	Ser	Ser	Ile	Glu	Glu	Arg	Gly	Tyr	Trp	Gly
			35					40					45		
Ser	Gly	Ser	Ala	Ile	Met	Ala	Pro	Ala	Pro	Phe	Arg	Ser	Gln	Ser	Thr
			50					55					60		
Arg	Ser	Ser	Ile	Glu	Asp	Phe	Asn	Tyr	Gly	Ser	Ser	Val	Ala	Ser	
65					70				75					80	
Ala	Thr	Val	His	Ile	Arg	Met	Ala	Phe	Leu	Arg	Lys	Val	Tyr	Ser	Ile
				85					90					95	
Leu	Ser	Leu	Gln	Val	Leu	Leu	Thr	Thr	Val	Thr	Ser	Thr	Val	Phe	Leu
			100						105					110	
Tyr	Phe	Glu	Ser	Val	Arg	Thr	Phe	Val	His	Glu	Ser	Pro	Ala	Leu	Ile
			115					120					125		
Leu	Leu	Phe	Ala	Leu	Gly	Ser	Leu	Gly	Leu	Ile	Phe	Ala	Leu	Thr	Leu
			130					135					140		
Asn	Arg	His	Lys	Tyr	Pro	Leu	Asn	Leu	Tyr	Leu	Leu	Phe	Gly	Phe	Thr
145					150					155					160
Leu	Leu	Glu	Ala	Leu	Thr	Val	Ala	Val	Val	Val	Thr	Phe	Tyr	Asp	Val
				165					170					175	
Tyr	Ile	Ile	Leu	Gln	Ala	Phe	Ile	Leu	Thr	Thr	Thr	Val	Phe	Phe	Gly
			180					185					190		
Leu	Thr	Val	Tyr	Thr	Leu	Gln	Ser	Lys	Lys	Asp	Phe	Ser	Lys	Phe	Gly
			195					200					205		
Ala	Gly	Leu	Phe	Ala	Leu	Leu	Trp	Ile	Leu	Cys	Leu	Ser	Gly	Phe	Leu
			210					215					220		
Lys	Phe	Phe	Phe	Tyr	Ser	Glu	Ile	Met	Glu	Leu	Val	Leu	Ala	Ala	Ala
225					230					235					240
Gly	Ala	Leu	Leu	Phe	Cys	Gly	Phe	Ile	Ile	Tyr	Asp	Thr	His	Ser	Leu
				245					250					255	
Met	His	Lys	Leu	Ser	Pro	Glu	Glu	Tyr	Val	Leu	Ala	Ala	Ile	Ser	Leu
			260					265					270		
Tyr	Leu	Asp	Ile	Ile	Asn	Leu	Phe	Leu	His	Leu	Leu	Arg	Phe	Leu	Glu
			275					280					285		
Ala	Val	Asn	Lys	Lys											
			290												

<210> 3933

<211> 4082

<212> DNA

<213> Homo sapiens

<400> 3933

tgaggtaact gacgatgaga tggcaacccg aaaggccaag atgcacaaag agtgtcgaag
60
ccggagtggg tctgatectc aagacattaa tgaacaagaa gatcagaggt gaatgccatc
120
gctaaccctc caaaccctcc cccttcacaga agagcccact ctttgaccac agctgggtcc
180
cccaacttgg ctgccgggac gtcattctcc atcaggccag tgcctctccc tgtgctgtct
240
tcttcaaaca agagcccac cagtgttgg agcagtagta gctggcacgg gcggatcaaa
300
ggcggcatga agggatttca gagcttcatg gtttcagata gcaacatgag tttgttgaa
360
tttgttgagc tgttcaaacc attcagtgtc aggagccgca aggacctgaa ggatctgttt
420
gatngtctat gcagtgcctt gcaaccgnat ctggctccga gtcagcccca ctctacacca
480
acctgacaat tgatgaaaac accagcgatc ttcagcctga ccntaggttt gttgaccaga
540
aatgtctcgg atttgggggt gttcattaag agtaaacagc agctatcgga caaccagagg
600
cagatatctg atgccattgc tgctgcaagc attgtgacaa atggcactgg gattgagagc
660
acatctctgg gcatttttgg ggtgggcata cttcagctca acgatttcct cgtgaattgc
720
caaggagaac actgcactta tgatgaaatc ctcagcatca tccagaagtt cgagcctagc
780
atcagtatgt gtcacagggg actaatgtca tttgaagggt ttgccagggt tctgatggat
840
aaagaaaatt ttgcctcaaa aaatgatgag tcacaggaga acattaaaga actgcagcta
900
ccctctcat actattacat cgaatcttgc cacaatacct acctcacggg ccatcagctc
960
aaaggagaat cctcggtaga actctacagc caggtccttt tgcaaggctg tcgaagtgtg
1020
gaattggact gctgggacgg agacgatggg atgcccacatc tttatcatgg acatacgtg
1080
acaaccaaga tccccttcaa ggaagtgggt gaagccattg atcgcagtgc cttcatcaac
1140
tctgacctgc caatcatcat atcgattgag aaccactgtt cattgcctca gcaacgaaaa
1200
atggcagaaa ttttcaagac tgtgtttgga gaaaagctgg tgactaaatt cttatttgag
1260
actgatttct cagatgatcc aatgcttcct tcacctgacc aactcagaaa gaaagtctt
1320
cttaaaaaca agaagctaaa agcccatcag acgccagtgg atatcttaaa gcaaaaggct
1380
catcagttag catctatgca agtgcaggct tataatgggt ggaatgcca cccccgacct
1440
gccataatg aggaagagga agatgaggag gacgaatatg attatgacta tgaatccctt
1500

tctgatgaca acattctgga agacagacct gaaaataaat catgtaatga caagcttcag
1560
tttgaatata atgaagaaat cccaaagagg ataaagaaag cagataactc tgcttgcaac
1620
aaaggaaagg tttatgatat ggaactggga gaagaatttt atcttgatca gaataaaaaa
1680
gaaagcagac agattgcacc agagctttct gaccttgtaa tctattgtca agcagtaaaa
1740
nntttccagg actgtcaact ctaaatgcat ctggctctag cagaggaaaa gaaaggaaaa
1800
gcaggaagtc catttnttgg caacaatccg ggcagaatga gcccagggga gacagcatca
1860
tttaacaaaa catctggaaa annagttcct gtgaaggcat tcgacagacc tngggaggaa
1920
tcttcttccc ctctcaaccc aaccacgtcc ctcagtgtca tcattagaac tcccaaatgt
1980
tatcatatct cgtcgtgtaa tgaaaatgcc gccaaacgtc tgtgtcgcag gtattctcag
2040
aaactgaccc agcacaccgc ctgtcagctg ctgagaactt accctgctgc caccgcgcatc
2100
gactcttcca acccgaaccc cctcatgttc tggctccatg ggatacagct tgtggcactc
2160
aactaccaga ctgatgatct ccctttacat ttaaatgctg caatgtttga ggcaaatggt
2220
ggttgtggtt atgtattgaa acctccagtt ctgtgggaca agaactgccc catgtatcag
2280
aagttttctc cactagaaag agatctggac agcatggatc ctgcagtcta ttctttaact
2340
attgtctctg gtcagaatgt gtgccccagt aatagcatgg gaagcccgtg cattgaagtc
2400
gacgtccttg gcatgcctct ggacagctgc catttccgca caaagcccat ccatcgaaac
2460
accctgaacc ccatgtggaa cgagcagttt ctgttccgcg ttcacttcga agatcttgta
2520
tttcttcggt ttgcagttgt ggaaaacaat agttcagcgg taactgctca gagaatcatt
2580
ccactgaaag ctttaaaacg aggatatcga catcttcagc tgcgaaacct tcacaatgaa
2640
gtcttggaaga tttctagttt attcattaac agcagaagga tggagaaga ttcctctggc
2700
aataccatgt cagcctcttc gatgtttaat acagaagaaa gaaaatgttt gcagactcac
2760
agagtcacgg tgcattgggt cccagggccca gagcccttta ccgttttcac tattaatgga
2820
ggcaccaagg caaagcagct tctgcagcaa attctgacaa atgaacaaga catcaaacct
2880
gttaccacag actatttttt gatggaagaa aaatatttta tatctaaaga aaagaatgaa
2940
tgtaggaaac aaccattcca gagagccatt ggtccagaag aggagatcat gcaaatttta
3000
agcagctggt ttccagaaga gggatacatg ggcaggattg tcttaaaaaa ccagcaggaa
3060
aacctagaag agaaaaacat tgttcaagat gacaaagagg tgatcttgag ctacaggagg
3120

gagagtttct ttgtccaagt gcatgatgtt tctccagagc aacctcgaac agtcatcaaa
 3180
 gcaccccgcg tcagcactgc acaggatgtc attcagcaga ccttatgcaa agccaaatat
 3240
 tcctacagca tcctgagcaa cccaatcca agcgactatg tgcttttgga agagggtggtg
 3300
 aaagacacta ccaacaagaa gactaccaca ccaaagtcct ctcagcgggt ccttctggat
 3360
 caggagtgtg tgtttcaagc ccaaagcaag tggaaagggt caggaaaatt catccttaag
 3420
 ctaaaggagc aggtgcaggc atctcgagaa gataaaaaga aaggcatttc tttcgcaagt
 3480
 gaactcaaga agctcaccaa gtcaactaaa cagccccgag gacttacatc accttctcag
 3540
 ctcttgacct cagaaagtat ccaaaccaag gaggagaaac ctgtgggtgg cttgtcctcc
 3600
 agtgacacaa tggattaccg acagtgacta agggcagcat gtttaacca ggtgaagatc
 3660
 tttaagcaag aagttaaaga gtgaacatgg tggaaaaaat ataattattt tcatcagact
 3720
 taaactggaa attgatgatt tctgaactga agccttcaca catgtgagat ccatgctgag
 3780
 gagaagcaaa atggcacagg gctagttgcc accaaccaat ttactgatga atgaagccca
 3840
 ggggactgcc attttataaa tgtcagcagt tggaaaaatc gtcacgaatt gacttagagc
 3900
 aagggtcagc aagcttgtct gtaaagggcc aaacagtaaa tatttttaggg ctgggggcca
 3960
 taaaatatgt tgcaaccacc caattctgcc attgtagtgc aaaagcagcc atagacaaca
 4020
 catacatgaa cgaacgtggc tgtattccaa taaaacttta tttatggaca ctgaaaaaaaa
 4080
 aa
 4082

<210> 3934

<211> 130

<212> PRT

<213> Homo sapiens

<400> 3934

Thr	Arg	Arg	Ser	Glu	Val	Asn	Ala	Ile	Ala	Asn	Pro	Pro	Asn	Pro	Leu
1				5					10					15	
Pro	Ser	Arg	Arg	Ala	His	Ser	Leu	Thr	Thr	Ala	Gly	Ser	Pro	Asn	Leu
			20					25					30		
Ala	Ala	Gly	Thr	Ser	Ser	Pro	Ile	Arg	Pro	Val	Ser	Ser	Pro	Val	Leu
		35					40					45			
Ser	Ser	Ser	Asn	Lys	Ser	Pro	Ser	Ser	Ala	Trp	Ser	Ser	Ser	Ser	Trp
		50				55					60				
His	Gly	Arg	Ile	Lys	Gly	Gly	Met	Lys	Gly	Phe	Gln	Ser	Phe	Met	Val
65				70					75					80	
Ser	Asp	Ser	Asn	Met	Ser	Phe	Val	Glu	Phe	Val	Glu	Leu	Phe	Lys	Ser
			85					90					95		
Phe	Ser	Val	Arg	Ser	Arg	Lys	Asp	Leu	Lys	Asp	Leu	Phe	Asp	Xaa	Leu

	100		105		110										
Cys	Ser	Ala	Leu	Gln	Pro	Xaa	Leu	Ala	Pro	Ser	Gln	Pro	His	Ser	Thr
	115		120		125										
Pro	Thr														
	130														

<210> 3935
 <211> 1103
 <212> DNA
 <213> Homo sapiens

<400> 3935
 ntgccagctt ggtgcaggga ggctcctgtg gacaggccag gcagggtgggc ctcaggaggt
 60
 gcctccaggc ggccagtggg cccgaggccc cagcaagggc taggggtccat ctccagtccc
 120
 aggacacagc agcggccacc atggccacgc ctgggctcca gcagcatcag cagccccag
 180
 gaccggggag gcacaggtgg cccccaccac ccggaggagc agctcctgcc cctgtccggg
 240
 ggatgactga ttctcctccg ccaggccacc cagaggagaa ggccaccccg cctggaggca
 300
 caggccatga ggggctctca ggaggtgtgt ctgatgtggc ttctgggtgtt ggcagtgggc
 360
 ggcacagagc acgcctaccg gcccgcccggt aggggtgtgt ctgtccgggc tcacggggac
 420
 cctgtctccg agtcgttcgt gcagcgtgtg taccagccct tcctcaccac ctgcgacggg
 480
 caccgggcct gcagcaccta ccgaaccatc tataggaccg cctaccgccg cagccctggg
 540
 ctggcccttg ccaggcctcg ctacgcgtgc tgccccggct ggaagaggac cagcgggctt
 600
 cctggggcct gtggagcagc aatatgccag ccgccatgcc ggaacggagg gagctgtgtc
 660
 cagcctggcc gctgccgctg ccctgcagga tggcggggtg acacttgcca gtcagatgtg
 720
 gatgaatgca gtgctaggag gggcggtgtt cccagcgct gcgtcaacac cgccggcagt
 780
 tactgggtgc agtggtggga ggggcacagc ctgtctgcag acggtacact ctgtgtgccc
 840
 aaggaggagg cccccagggt ggcccccaac ccgacaggta aacagccctg gctgtgcctg
 900
 gcctggggag gcgggcaggc agtggacatt gccgtgtggc tgtaggcat ggtggggggc
 960
 actggaatct gggcggaagg cgggtggggac tccctctcca gggagggagg atggggaggg
 1020
 aggataggtg gggtcccag aactgggggc aggttgcccg gagcctcata tcagccaaga
 1080
 aggcagaagt gcccgtccc ggg
 1103

<210> 3936
 <211> 265
 <212> PRT

<213> Homo sapiens

<400> 3936

```

Met Arg Gly Ser Gln Glu Val Leu Leu Met Trp Leu Leu Val Leu Ala
 1           5           10           15
Val Gly Gly Thr Glu His Ala Tyr Arg Pro Gly Arg Arg Val Cys Ala
      20           25           30
Val Arg Ala His Gly Asp Pro Val Ser Glu Ser Phe Val Gln Arg Val
      35           40           45
Tyr Gln Pro Phe Leu Thr Thr Cys Asp Gly His Arg Ala Cys Ser Thr
      50           55           60
Tyr Arg Thr Ile Tyr Arg Thr Ala Tyr Arg Arg Ser Pro Gly Leu Ala
      65           70           75           80
Pro Ala Arg Pro Arg Tyr Ala Cys Cys Pro Gly Trp Lys Arg Thr Ser
      85           90           95
Gly Leu Pro Gly Ala Cys Gly Ala Ala Ile Cys Gln Pro Pro Cys Arg
      100          105          110
Asn Gly Gly Ser Cys Val Gln Pro Gly Arg Cys Arg Cys Pro Ala Gly
      115          120          125
Trp Arg Gly Asp Thr Cys Gln Ser Asp Val Asp Glu Cys Ser Ala Arg
      130          135          140
Arg Gly Gly Cys Pro Gln Arg Cys Val Asn Thr Ala Gly Ser Tyr Trp
      145          150          155          160
Cys Gln Cys Trp Glu Gly His Ser Leu Ser Ala Asp Gly Thr Leu Cys
      165          170          175
Val Pro Lys Gly Gly Pro Pro Arg Val Ala Pro Asn Pro Thr Gly Lys
      180          185          190
Gln Pro Trp Leu Cys Leu Ala Trp Gly Gly Gly Gln Ala Val Asp Ile
      195          200          205
Ala Val Trp Leu Leu Gly Met Val Gly Gly Thr Gly Ile Trp Ala Glu
      210          215          220
Gly Gly Gly Asp Ser Leu Ser Arg Glu Gly Gly Trp Gly Gly Arg Ile
      225          230          235          240
Gly Gly Phe Pro Arg Thr Gly Gly Arg Leu Pro Gly Ala Ser Tyr Gln
      245          250          255
Pro Arg Arg Gln Lys Cys Pro Val Pro
      260          265

```

<210> 3937

<211> 744

<212> DNA

<213> Homo sapiens

<400> 3937

```

tccgactct ccgctgggcc cacgaaggag aaaggetgcc tcggattcct gcgccaagc
60
caaggtccgg cgcccacgga ggcaagtccg gtctcacggt gacctcccgc cggcgccgcc
120
ttcgccgcca accatccagt tcttctcca ggccacgttc tccttgcgga aaatgctgat
180
ctcagtcgca atgctggggc caggggctgg cgtgggctac gcgctctcgc ttatcgtgac
240
cccgggagag cggcggaagc aggaaatgct aaaggagatg ccactgcagg acccaaggag
300

```

cagggaggag gcggccagga cccagcagct attgctggcc actctgcagg aggcagcgac
 360
 cagcaggag aacgtggcct gngaggaaga actggatggt tggcggcgaa ggcggcgcca
 420
 gcgggaggtc accgtgagac cggacttgcc tccgtgggag ccggaccttg gcttgggagc
 480
 aggaatccga ggcagccttt ctccttcgtg ggcccagcgg agagtccgga ccgagatacc
 540
 atgccaggac tctccggggg cctgtgagct gccgtcgggt gagcacgttt ccccaaacc
 600
 ctggactgac tgctttaagg tccgcaaggc gggccagggc cgagacgcga gtcggatgtg
 660
 gtgaactgaa agaaccaata aaatcatgtt cctccacca gaatgagccc tgcagtcgac
 720
 acctaccaat gcttagagac gcgt
 744

<210> 3938
 <211> 154
 <212> PRT
 <213> Homo sapiens

<400> 3938
 Pro Pro Ala Gly Ala Ala Phe Ala Ala Asn His Pro Val Leu Pro Pro
 1 5 10 15
 Gly His Val Leu Leu Ala Glu Asn Ala Asp Leu Ser Arg Asn Ala Gly
 20 25 30
 Arg Arg Gly Trp Arg Gly Leu Arg Ala Pro Arg Tyr Arg Asp Pro Gly
 35 40 45
 Arg Ala Ala Glu Ala Gly Asn Ala Lys Gly Asp Ala Thr Ala Gly Pro
 50 55 60
 Lys Glu Gln Gly Gly Gly Gln Asp Pro Ala Ala Ile Ala Gly His
 65 70 75 80
 Ser Ala Gly Gly Ser Asp His Ala Gly Glu Arg Gly Leu Xaa Gly Arg
 85 90 95
 Thr Gly Trp Leu Ala Ala Lys Ala Ala Pro Ala Gly Gly His Arg Glu
 100 105 110
 Thr Gly Leu Ala Ser Val Gly Ala Gly Pro Trp Leu Gly Arg Arg Asn
 115 120 125
 Pro Arg Gln Pro Phe Ser Phe Val Gly Pro Ala Glu Ser Pro Asp Arg
 130 135 140
 Asp Thr Met Pro Gly Leu Ser Gly Val Leu
 145 150

<210> 3939
 <211> 490
 <212> DNA
 <213> Homo sapiens

<400> 3939
 nnttgcaacg tgagagggcg ctcaagagat tcaggaaagg aaagacagac agacagacag
 60
 acgggaaagg tgagatggaa acacacagaa gatgagagag acagacagtg ggaggcagag
 120

ctgaagactg tgaagaaaag ggcaacagac agcgaggag gaagagacag gctggagccc
 180
 ttcttgtaaa cgcaggtgac ctggtgcacg gctgatggtg gttaaactcg aactccaggt
 240
 gataaccact gtctcctgga gcctgtgggt cggcctcctg ctctgctgca agggccctgc
 300
 tggctggcgg ggggcggtcc cggagcctcg acccttcacg ttttactcc gtttctgttc
 360
 taaggaaccc acggtgcgga ggtgtcagga ggaaggtagc agcgtcttga ctttccaccg
 420
 tctgaccctc cctggagtgc tggggcctgt tcggggcccg ccaggttcag gctccacaga
 480
 cctcacgcgt
 490

<210> 3940

<211> 62

<212> PRT

<213> Homo sapiens

<400> 3940

Xaa	Cys	Asn	Val	Arg	Gly	Arg	Ser	Arg	Asp	Ser	Gly	Lys	Glu	Arg	Gln
1			5				10				15				
Thr	Asp	Arg	Gln	Thr	Gly	Lys	Val	Arg	Trp	Lys	His	Thr	Glu	Asp	Glu
		20				25					30				
Arg	Asp	Arg	Gln	Trp	Glu	Ala	Glu	Leu	Lys	Thr	Val	Lys	Glu	Arg	Ala
		35				40					45				
Thr	Asp	Ser	Glu	Gly	Gly	Arg	Asp	Arg	Leu	Glu	Pro	Phe	Leu		
	50					55					60				

<210> 3941

<211> 2077

<212> DNA

<213> Homo sapiens

<400> 3941

nnTTTTTTTT ttttttttca agatggcagc tttaatcaca ttggccaagg gcctagggtc
 60
 cctctgttca ggccactta gccacacacc caccctggcc atatccagaa cacttctacc
 120
 aggtgggccc tgccctgtgg ccaactgatgt gggaacctga ggtcacatca gtctgtggac
 180
 tcctgggtta ggtgaccctt ctgccttgag gtctgctgga cacctgggca tgggatccag
 240
 tagtccctgag ctactctttt tgcccatctc cagctgctcc taggggacgt ggctcaggcc
 300
 cgctccctggg gcaggggggt ggcggtggca tgaggtgggt tggggaggag gacgtgtctc
 360
 cacattgcag ctggcttcct cctgggctga acctccttgt gctttgagac tgacaggaag
 420
 agcagagttg cttcaggtag aggetcggcc caggcccttg gggcaggata acagcagaga
 480
 actcaggtgc ctccctggcac agacaggagg acagatggca caggtgagca tccacacact
 540

ccattgccac agggggtatg gcatggccca tgacccatca aagcttccag gtcgggatac
600
aggagagggc ctcagaagag ggggaccaag ccctaggccc catacttccc agaaggagcc
660
ccaggcctgc aggggcatct gaaaggatgg agtcctggcc cagctgggccc tcaggggaca
720
gggagtcccc ctcaagagag gctgcggctg acaaggggct ggagcccaca aggaggctgt
780
ggagcccgtc cccagagcac tccgagttca gacacacttc caccagctct cctaggctcc
840
ccagcttctg tgtcaggtac aggtgggaca gacatgtctt cagctaacgc ccaactccgt
900
ctatgagggc cttggtgtgg ctgccacccc ctcgggggcc cacaggggtg gcggtgctgt
960
tggcatatgt gtcataactg ttgtctgaac atacggagag cacatcggag acctctacac
1020
catcgtgat ctctgagaaa ataagcttct ccttcatgat gctgacgtcc cggctggctc
1080
ggcgcaccgc agcactcagc atgatctgct cagggttgta gctccgtatg ccaccaggcc
1140
gccacctgat caagtgatag ttctggagca cgaagatgcc cacgatgagg gtgaaggaga
1200
ccaggtcggc agtgaccac atgagacagt actcgtccgg gggcatgatc cagagggggg
1260
aaggcacctg ggacaggggtg tgggagttgt cagaggtgac ggatgggacc cccgcacacc
1320
acagcaggga gaagagccac ggtgcgttga ctgtgtagag gttcacactc aggttccagg
1380
acgcgtatgc cctgagctcc tggcgggaca cctgagtgtg gcgcagggtc agccgctgga
1440
tgtggcctct ccgcaggctg gcgactgcct ccttggagcc tgatgtctgt tggagccgg
1500
gagccacctt ccgcaccagg ggcctctgcc tgctaggcag ccacatgacc tgggtgctggg
1560
ggaagccgga gtgcagcacg gcctccagag tcacgttgat aaaactgctg ctcaacctgc
1620
gtgacccgcc ccgggagcac ccctaccgca gcagttttat caacgtgact ctggaggccg
1680
tgctgcactc cggcttcccc cagctccagg tgctctagga ggagtaggta ctcttacgca
1740
tcgtgcagaa gagaagtctg aggtgcctc tcttctgcct gcaggtcatg tggctgccta
1800
gcaggcagag gccctgggtg cggaagggtg ctcccggctt ccaacagaca tcaggctcca
1860
aggaggcagt cgccagcctg cggagaggcc acatccagcg gctgaacctg cgctacactc
1920
aggtgtcccc ccagcgtcca ggtgcctgcc ctgccctggg ctctccagg agaggggtggg
1980
actgagtctc taacagtctc gccaccacca cccccaaca cacacacaca cacacacaca
2040
ctgtcgggca gagggatggg cacacagagg tatcagg
2077

<210> 3942

<211> 89
 <212> PRT
 <213> Homo sapiens

<400> 3942

Ala	Pro	Tyr	Phe	Pro	Glu	Gly	Ala	Pro	Gly	Leu	Gln	Gly	His	Leu	Lys
1				5				10					15		
Gly	Trp	Ser	Pro	Gly	Pro	Ala	Gly	Pro	Gln	Gly	Thr	Gly	Ser	Pro	Pro
			20					25					30		
Gln	Glu	Arg	Leu	Arg	Leu	Thr	Arg	Gly	Trp	Ser	Pro	Gln	Gly	Gly	Cys
			35					40					45		
Gly	Ala	Arg	Ser	Gln	Ser	Thr	Pro	Ser	Ser	Asp	Thr	Leu	Pro	Pro	Ala
	50					55					60				
Leu	Leu	Gly	Ser	Pro	Ala	Ser	Val	Ser	Gly	Thr	Gly	Gly	Thr	Asp	Met
65					70					75					80
Ser	Ser	Ala	Asn	Ala	His	Ser	Ala	Leu							
					85										

<210> 3943
 <211> 1524
 <212> DNA
 <213> Homo sapiens

<400> 3943

tctagacaaa aatccgcttc agaaataggc tgcgggcggc cggctaggag gcttggcccc
 60
 acccegggac ccccgccgtc cccggggccgg ccggcggtgg gcacgatgag ccaggtgctg
 120
 gggaagccgc agccgcagga cgaggacgac gcggaggagg aggaggagga ggatgagctg
 180
 gtggggctag cggactacgg agacggggccc gactcctccg acgccgatcc ggacagcggc
 240
 acagaggagg gagttctgga cttcagtgac cccttcagca ctgaagtga gccgagaatc
 300
 ctgctcatgg gcctgaggag aagcggcaag tcgtctattc agaaagttgt ctttcacaaa
 360
 atgtctccca acgaaactct gttcttgagg agcactaata agatatgccg ggaagatgtt
 420
 tccaacagct cctttgtcaa ttttcagatt tgggacttcc caggacagat tgactttttt
 480
 gaccctacat ttgactatga gatgatcttc cggggaacag gagcattgat atttgtcatt
 540
 gacgcacagg atgactacat ggaggcttta acaagacttc acattactgt ttctaaagcc
 600
 taaaaagtta acccagacat gaattttgag gtttttattc ataaagttga tggctctgtc
 660
 gatgatcaca aaatagaaac acagagggac attcatcaaa gggccaatga tgaccttgca
 720
 gatgctggat tagaaaaaat tcacctcagc ttttatctga caagcatata tgatcattca
 780
 atatttgaag cttttagcaa agttgttcag aaactgattc cacaactccc aactctggag
 840
 aatttctga acatctttat ctcaaattct ggaattgaaa aggcatttct atttgatgtg
 900

gtcagtaaaa tttatattgc aactgatagt actccgggtgg atatgcaaac ctatgagctc
 960
 tgctgtgata tgatagatgt ggttattgac atctcttgta tttatgggtct caaagaagat
 1020
 ggagcaggaa cccctatga caaggaatcc acagccatca taaagcttaa taatacaacc
 1080
 gtgcttttatt taaaagaggt gacaaagtgc ctggctctcg tttgctttgt cagagaggaa
 1140
 agctttgaaa gaaaagggt aattgactat aattttcatt gcttccggaa ggccattcat
 1200
 gaagtttttg aggtgagaat gaaagtagta aaatctcgaa aggttcagaa tcggctgcag
 1260
 aagaaaaaga gagccacccc taatgggacc cctagagtgc tgctgtaggt gaggtttcag
 1320
 gaatgtcttt tgaaatcaga cttatccat gaggtgctg cgccatgttg cactaaagga
 1380
 agaggaagaa ggagattggg acacatacca ttgatttggt gtaaaaaaa aaaaattcct
 1440
 gcaaccctct tgatcttctc tttataaat aaagtaagca ctttgaagca aaaaaaaaaa
 1500
 aaaaaaaaaa aaaaaaaaaa aaaa
 1524

<210> 3944

<211> 435

<212> PRT

<213> Homo sapiens

<400> 3944

Ser	Arg	Gln	Lys	Ser	Ala	Ser	Glu	Ile	Gly	Cys	Gly	Arg	Pro	Ala	Arg
1			5						10					15	
Arg	Leu	Gly	Pro	Thr	Pro	Gly	Pro	Pro	Pro	Ser	Pro	Gly	Arg	Pro	Ala
			20					25					30		
Val	Gly	Thr	Met	Ser	Gln	Val	Leu	Gly	Lys	Pro	Gln	Pro	Gln	Asp	Glu
		35					40				45				
Asp	Asp	Ala	Glu	Glu	Glu	Glu	Glu	Glu	Asp	Glu	Leu	Val	Gly	Leu	Ala
	50				55					60					
Asp	Tyr	Gly	Asp	Gly	Pro	Asp	Ser	Ser	Asp	Ala	Asp	Pro	Asp	Ser	Gly
65					70				75					80	
Thr	Glu	Glu	Gly	Val	Leu	Asp	Phe	Ser	Asp	Pro	Phe	Ser	Thr	Glu	Val
			85					90					95		
Lys	Pro	Arg	Ile	Leu	Leu	Met	Gly	Leu	Arg	Arg	Ser	Gly	Lys	Ser	Ser
		100					105					110			
Ile	Gln	Lys	Val	Val	Phe	His	Lys	Met	Ser	Pro	Asn	Glu	Thr	Leu	Phe
		115					120					125			
Leu	Glu	Ser	Thr	Asn	Lys	Ile	Cys	Arg	Glu	Asp	Val	Ser	Asn	Ser	Ser
	130				135					140					
Phe	Val	Asn	Phe	Gln	Ile	Trp	Asp	Phe	Pro	Gly	Gln	Ile	Asp	Phe	Phe
145				150				155						160	
Asp	Pro	Thr	Phe	Asp	Tyr	Glu	Met	Ile	Phe	Arg	Gly	Thr	Gly	Ala	Leu
			165				170						175		
Ile	Phe	Val	Ile	Asp	Ala	Gln	Asp	Asp	Tyr	Met	Glu	Ala	Leu	Thr	Arg
		180					185					190			
Leu	His	Ile	Thr	Val	Ser	Lys	Ala	Tyr	Lys	Val	Asn	Pro	Asp	Met	Asn

```

      195              200              205
Phe Glu Val Phe Ile His Lys Val Asp Gly Leu Ser Asp Asp His Lys
  210              215              220
Ile Glu Thr Gln Arg Asp Ile His Gln Arg Ala Asn Asp Asp Leu Ala
  225              230              235              240
Asp Ala Gly Leu Glu Lys Ile His Leu Ser Phe Tyr Leu Thr Ser Ile
      245              250              255
Tyr Asp His Ser Ile Phe Glu Ala Phe Ser Lys Val Val Gln Lys Leu
      260              265              270
Ile Pro Gln Leu Pro Thr Leu Glu Asn Leu Leu Asn Ile Phe Ile Ser
      275              280              285
Asn Ser Gly Ile Glu Lys Ala Phe Leu Phe Asp Val Val Ser Lys Ile
      290              295              300
Tyr Ile Ala Thr Asp Ser Thr Pro Val Asp Met Gln Thr Tyr Glu Leu
  305              310              315              320
Cys Cys Asp Met Ile Asp Val Val Ile Asp Ile Ser Cys Ile Tyr Gly
      325              330              335
Leu Lys Glu Asp Gly Ala Gly Thr Pro Tyr Asp Lys Glu Ser Thr Ala
      340              345              350
Ile Ile Lys Leu Asn Asn Thr Thr Val Leu Tyr Leu Lys Glu Val Thr
      355              360              365
Lys Phe Leu Ala Leu Val Cys Phe Val Arg Glu Glu Ser Phe Glu Arg
      370              375              380
Lys Gly Leu Ile Asp Tyr Asn Phe His Cys Phe Arg Lys Ala Ile His
  385              390              395              400
Glu Val Phe Glu Val Arg Met Lys Val Val Lys Ser Arg Lys Val Gln
      405              410              415
Asn Arg Leu Gln Lys Lys Lys Arg Ala Thr Pro Asn Gly Thr Pro Arg
      420              425              430
Val Leu Leu
      435

```

<210> 3945

<211> 696

<212> DNA

<213> Homo sapiens

<400> 3945

```

cggccggctg taaacctgcc actaggaccc ggtcgggtgag atctagcctc ttgacctgag
  60
agccgagagt ggatcgctgg gctgggctaa cggcgacgga gagcgcgccc tcgctgactc
  120
cgggcgcgcc cagcagtagc accgcccgcg cccgcccctg gacacttgta agtttcgatt
  180
tccgatttcc gcggaaccga gtcccgcgcc gcggcagagc cagcacagcc agcgcgccat
  240
ggcggacccg gaggtgtgct gcttcacac caaatcctg tgcgccacg ggggccgcat
  300
ggccctggac gcgctgctcc aggagatcgc gctgtctgag ccgagctct gtgaggtgct
  360
gcaggtggcc gggcccgacc gctttgtggt gttggagacc ggcggcgagg ccgggatcac
  420
ccgatcgggt gtggccacca ctcgagcccg ggtctgccgt cgcaagtact gccagagacc
  480

```

ctgcgataac ctgcatctct gcaaactcaa cttgctgggc cggtgcaact attcgagtc
 540
 cgagcgggaat ttatgcaaatt attctcatga ggttctctca gaagagaact tcaaagtcct
 600
 gaaaaatcac gaactctctg gactgaacaa agaggaatta gcagtgtctc tcctccaaag
 660
 tgatcctttt tttatgcccg agccctatgc agtctc
 696

<210> 3946

<211> 165

<212> PRT

<213> Homo sapiens

<400> 3946

Met	Gln	Val	Ile	Ala	Gly	Ser	Leu	Ala	Val	Leu	Ala	Thr	Ala	Asp	Pro
1				5					10					15	
Gly	Ser	Ser	Gly	Gly	His	His	Arg	Ser	Gly	Asp	Pro	Gly	Leu	Ala	Ala
			20					25					30		
Gly	Leu	Gln	His	His	Lys	Ala	Val	Gly	Pro	Gly	His	Leu	Gln	His	Leu
		35					40					45			
Thr	Glu	Leu	Arg	Leu	Arg	Gln	Arg	Asp	Leu	Leu	Glu	Gln	Arg	Val	Gln
	50					55					60				
Gly	His	Ala	Ala	Pro	Val	Gly	Ala	Gln	Asp	Phe	Gly	Asp	Glu	Ala	Ala
65					70					75				80	
His	Leu	Arg	Val	Arg	His	Gly	Ala	Leu	Ala	Val	Leu	Ala	Leu	Pro	Arg
			85						90					95	
Arg	Gly	Thr	Arg	Phe	Arg	Gly	Asn	Arg	Lys	Ser	Lys	Leu	Thr	Ser	Val
		100						105					110		
Gln	Gly	Arg	Ala	Arg	Ala	Val	Leu	Leu	Gly	Ala	Pro	Gly	Val	Ser	
		115					120					125			
Glu	Gly	Ala	Leu	Ser	Val	Ala	Val	Ser	Pro	Ala	Gln	Arg	Ser	Thr	Leu
	130					135					140				
Gly	Ser	Gln	Val	Lys	Arg	Leu	Asp	Leu	Thr	Asp	Arg	Val	Leu	Val	Ala
145					150					155					160
Gly	Leu	Gln	Pro	Ala											
					165										

<210> 3947

<211> 400

<212> DNA

<213> Homo sapiens

<400> 3947

nnggagaagc aggccattct cttggcgctg atcgaggagc ggggcccgtt ctgcaccttc
 60
 atcaccttcc tgcagcctgt ggtgaatgga gagctgacca tgctgggaga gatcaccac
 120
 ctgcagggca tcatcgacga cttggtggtg ctgacagcag aaccccacaa actgcctccc
 180
 gccagcgagc aggtaataca agacctaaag ggctcggact acagctgggc ctaccagacc
 240
 ccaccctcat caccagcag ctccagctcc cggaagtcca gcatgtgcag tgccccagc
 300

agcagtagca gtgccaaggg tggcggaagc cccatggcct gggggtgccc aaacatactc
 360
 acccagttcc acctgtcgct accgcagcct ggcgcagcca
 400

<210> 3948
 <211> 133
 <212> PRT
 <213> Homo sapiens

<400> 3948
 Xaa Glu Lys Gln Ala Ile Leu Leu Ala Leu Ile Glu Glu Arg Gly Arg
 1 5 10 15
 Phe Cys Thr Phe Ile Thr Phe Leu Gln Pro Val Val Asn Gly Glu Leu
 20 25 30
 Thr Met Leu Gly Glu Ile Thr His Leu Gln Gly Ile Ile Asp Asp Leu
 35 40 45
 Val Val Leu Thr Ala Glu Pro His Lys Leu Pro Pro Ala Ser Glu Gln
 50 55 60
 Val Ile Lys Asp Leu Lys Gly Ser Asp Tyr Ser Trp Ser Tyr Gln Thr
 65 70 75 80
 Pro Pro Ser Ser Pro Ser Ser Ser Ser Arg Lys Ser Ser Met Cys
 85 90 95
 Ser Ala Pro Ser Ser Ser Ser Ser Ala Lys Gly Gly Gly Ser Pro Met
 100 105 110
 Ala Trp Gly Cys Pro Asn Ile Leu Thr Gln Phe His Leu Ser Leu Pro
 115 120 125
 Gln Pro Gly Ala Ala
 130

<210> 3949
 <211> 1462
 <212> DNA
 <213> Homo sapiens

<400> 3949
 ctcgagaact ccagccttgg aagaaaggcc acaggctgag tttcttattt ttatggcttt
 60
 tacccagaga gcaagacaca ggtctgcatt gtgcagcaca gctaaagttc ctttagaaaa
 120
 ccaccatctt tctggctgca agagtcaggg gtcagaatgg ggggcagcca ccactgctga
 180
 aaagagttgg gggaggaacc cctgaaagga gagccagaaa tgggggagct ccaaactctt
 240
 tgtgtcagct ctgtccaaat ctctaactga cttgtgaact aaaaagaaag gtttctacca
 300
 tcagcagact gtcaccata gacatttaca cagtattttg gtttggagtt cttcctaata
 360
 gtcacttcac agaaaaatat ataggtgctg ttttgccctg gaagccagac agatcagaat
 420
 attgggtaag atagctgggt cagctgtcct tggatggatc ccaaacta tgctcctttc
 480
 caggcctgag aatcgccgaa cactgtccaa cacaatgtga tcaccaaca tatcacatgc
 540

atcactgagc tgcaccaccc ttttcttccct cattgctttc aagagctcat acttatagt
 600
 ctccacttct tttgcggtgc tgacaagcac agcaacatcc tttggagaat agcccctatc
 660
 aaagaagcgc ctgcacgtgt ctgccacaca ggtcattatt tgctccacag tcaagtattt
 720
 cttaattcgt aaggttccct gaacaccctg ggaccattcg gcttcaggaa atacctcgag
 780
 gcacccagtg gggatattaa ttggaggatt ttctataatt agttgcattt ctttttgtaa
 840
 gtactcggtt atttcatctg cattgcgaac tattctggtg agctcttctc ttggatattg
 900
 gtctgagaga ggagggaggc cactgtgacc caagtggctg gtctgaaagt aatccagaaa
 960
 gatccagaga actcctggac aatccttttc tctctgagtg atgctttttg ccttcccata
 1020
 ccagtcccca tcttcagtac ggaaattctg agcttcgtca atgacgatgt gttgaatgtg
 1080
 ttcaaatttt tctcttagga aagtttcccg ggtctctgct cggcagatat ttctatcact
 1140
 gataaagtgc ctgagaggct ggttttcaca aacgtagaga attctgtgtg cctcacagtg
 1200
 aaacacattc ctgatcttct ccatgatttt catggccatg atgttcttcc ctgagccagg
 1260
 taagccgtgg acaacaact ctctgttctt gcggaggctt ctggagaata tctcatactg
 1320
 ctgggctgtg agcagattta aaacctcaca gccgagctgg tcaactcaaga gagacctgaa
 1380
 gccgagtaag acaatcacga gggactgcag cagggcttcc atgtgctggg tgccctgcaag
 1440
 gctataggac gcagggtaat cc
 1462

<210> 3950

<211> 351

<212> PRT

<213> Homo sapiens

<400> 3950

Met	Glu	Ala	Leu	Leu	Gln	Ser	Leu	Val	Ile	Val	Leu	Leu	Gly	Phe	Arg
1			5					10					15		
Ser	Leu	Leu	Ser	Asp	Gln	Leu	Gly	Cys	Glu	Val	Leu	Asn	Leu	Leu	Thr
		20					25					30			
Ala	Gln	Gln	Tyr	Glu	Ile	Phe	Ser	Arg	Ser	Leu	Arg	Lys	Asn	Arg	Glu
		35					40					45			
Leu	Phe	Val	His	Gly	Leu	Pro	Gly	Ser	Gly	Lys	Asn	Ile	Met	Ala	Met
	50					55					60				
Lys	Ile	Met	Glu	Lys	Ile	Arg	Asn	Val	Phe	His	Cys	Glu	Ala	His	Arg
65					70				75					80	
Ile	Leu	Tyr	Val	Cys	Glu	Asn	Gln	Pro	Leu	Arg	Asn	Phe	Ile	Ser	Asp
			85					90					95		
Arg	Asn	Ile	Cys	Arg	Ala	Glu	Thr	Arg	Glu	Thr	Phe	Leu	Arg	Glu	Lys
		100					105					110			
Phe	Glu	His	Ile	Gln	His	Ile	Val	Ile	Asp	Glu	Ala	Gln	Asn	Phe	Arg

115	120	125
Thr Glu Asp Gly Asp Trp Tyr Gly Lys Ala Lys Ser Ile Thr Gln Arg		
130	135	140
Glu Lys Asp Cys Pro Gly Val Leu Trp Ile Phe Leu Asp Tyr Phe Gln		
145	150	155
Thr Ser His Leu Gly His Ser Gly Leu Pro Pro Leu Ser Asp Gln Tyr		
165	170	175
Pro Arg Glu Glu Leu Thr Arg Ile Val Arg Asn Ala Asp Glu Ile Ala		
180	185	190
Glu Tyr Leu Gln Lys Glu Met Gln Leu Ile Ile Glu Asn Pro Pro Ile		
195	200	205
Asn Ile Pro Thr Gly Cys Leu Glu Val Phe Pro Glu Ala Glu Trp Ser		
210	215	220
Gln Gly Val Gln Gly Thr Leu Arg Ile Lys Lys Tyr Leu Thr Val Glu		
225	230	235
Gln Ile Met Thr Cys Val Ala Asp Thr Cys Arg Arg Phe Phe Asp Arg		
245	250	255
Gly Tyr Ser Pro Lys Asp Val Ala Val Leu Val Ser Thr Ala Lys Glu		
260	265	270
Val Glu His Tyr Lys Tyr Glu Leu Leu Lys Ala Met Arg Lys Lys Arg		
275	280	285
Val Val Gln Leu Ser Asp Ala Cys Asp Met Leu Gly Asp His Ile Val		
290	295	300
Leu Asp Ser Val Arg Arg Phe Ser Gly Leu Glu Arg Ser Ile Val Phe		
305	310	315
Gly Ile His Pro Arg Thr Ala Asp Pro Ala Ile Leu Pro Asn Ile Leu		
325	330	335
Ile Cys Leu Ala Ser Arg Ala Lys Gln His Leu Tyr Ile Phe Leu		
340	345	350

<210> 3951

<211> 1012

<212> DNA

<213> Homo sapiens

<400> 3951

ctggttcgag actccaatcc tgtttcgaat tgctgcttgc tgcccttggg ctggggataa
 60
 tggaagttct ttcccttccc aactctttcc agaccaagc actctgggac tcaactcata
 120
 gtccaggagt tccaggttcc ggattatggt ccatggcagc agtccaagca ggaaaccaag
 180
 ccatctactc tgcctccagt ccaacaagcc aacagccttc atacaagcaa aatgaagact
 240
 ttgactaggg tocaaccagt gtttcacttc aagcccacta cggtggtgac aagctgccag
 300
 ccgaagaatc caagagaact acatagaagg cggaagttgg accctgggaa gatgcatgcc
 360
 aaaatctggt taatgaagac ctgcgtcagg agcgggaggg ccgctctgcg agagctccga
 420
 agccgtgaga acttcctcag caagctcaac cgggagctga tcgagaccat ccaggagatg
 480
 gagaacagca cgaccctgca cgtgcggggc ctgctgcagc agcaggacac cctggcgacc
 540

atcatcgaca tcttgagta ctcaaacaag aagaggctgc agcaattgaa atctgagctt
 600
 caggagtggg aagaaaagaa gaaatgcaag atgagctatc ttgagcagca ggcagagcag
 660
 ctgaatgccca agattgagaa gacccaggag gaagtgaact tcctgagcac ttacatggac
 720
 catgagtatt ccatcaagtc tgtccagatc tccactctta tgcgccactg cagcagggtta
 780
 aggacagcca gcaggtaggg gagccctgc ccctntccca ccagactgtg tgggaggcag
 840
 gactgggtggc caacaccgtt ctgctggctc ccaggatgag ctggatgacc tcggtgagat
 900
 gcgcagaaaag gtcctgggaa tccttgctcg acaagattca gaagaagaag aaaaaaattc
 960
 tgagttctgt ggtggcggtg agtagccagt tgctgtgtgg gagcggggat cc
 1012

<210> 3952

<211> 188

<212> PRT

<213> Homo sapiens

<400> 3952

Met	Lys	Thr	Leu	Thr	Arg	Val	Gln	Pro	Val	Phe	His	Phe	Lys	Pro	Thr
1				5					10					15	
Thr	Val	Val	Thr	Ser	Cys	Gln	Pro	Lys	Asn	Pro	Arg	Glu	Leu	His	Arg
			20					25					30		
Arg	Arg	Lys	Leu	Asp	Pro	Gly	Lys	Met	His	Ala	Lys	Ile	Trp	Leu	Met
		35					40					45			
Lys	Thr	Ser	Leu	Arg	Ser	Gly	Arg	Ala	Ala	Leu	Arg	Glu	Leu	Arg	Ser
		50				55					60				
Arg	Glu	Asn	Phe	Leu	Ser	Lys	Leu	Asn	Arg	Glu	Leu	Ile	Glu	Thr	Ile
65					70				75					80	
Gln	Glu	Met	Glu	Asn	Ser	Thr	Thr	Leu	His	Val	Arg	Ala	Leu	Leu	Gln
				85					90					95	
Gln	Gln	Asp	Thr	Leu	Ala	Thr	Ile	Ile	Asp	Ile	Leu	Glu	Tyr	Ser	Asn
			100					105					110		
Lys	Lys	Arg	Leu	Gln	Gln	Leu	Lys	Ser	Glu	Leu	Gln	Glu	Trp	Glu	Glu
		115					120					125			
Lys	Lys	Lys	Cys	Lys	Met	Ser	Tyr	Leu	Glu	Gln	Gln	Ala	Glu	Gln	Leu
		130			135						140				
Asn	Ala	Lys	Ile	Glu	Lys	Thr	Gln	Glu	Glu	Val	Asn	Phe	Leu	Ser	Thr
145					150					155				160	
Tyr	Met	Asp	His	Glu	Tyr	Ser	Ile	Lys	Ser	Val	Gln	Ile	Ser	Thr	Leu
			165					170						175	
Met	Arg	His	Cys	Ser	Arg	Leu	Arg	Thr	Ala	Ser	Arg				
			180					185							

<210> 3953

<211> 2900

<212> DNA

<213> Homo sapiens

<400> 3953

cccaggctca aggcaaatta taagtaggga accaatttga gggaaagaca tgtgaacaga
60
gttaagggtac cacgtcctgg gagegaccag cagccccacc tgaagtccgc atgcaactct
120
gacaagctca ggtgcttggt ttaaggaaag gggctactag agtcttacca acagcgagcc
180
caggtgggag atgaaacagg tactcccaa aatagggtcat ccgagggagg aaaactgatg
240
gagagcaciaa tgtgctctga gcgtttttaa tgtttttaag cttttaaatg atttcttcaa
300
ggccgagcag cagcagcaaa ggtgtggctt aaaggattaa gggggtttct gctggcacct
360
agaatgaagt tactctatta ctaatcaagc cgagaggagg cccactatgc ccccgtttat
420
catcctttcc cagtccctt ttgctgggtca caaaacgatg ctcatcaatc ccacctaag
480
caggaggcca ggagcccagc ctcttgtaga aacagcgagg gtataactgc cctcccgttc
540
tgcccccaag acgaaggagg actctcggaa gccaagaaag gtttaagaag tctttctgga
600
tagagagcag tgcccaggca ggaagccttt cgccggcaga gcggggtcg aggacgagct
660
ggagaggaca gaggcgcat gggcctgctg cagggcctgc tccgagtccg gaagctgctg
720
ctggctgtct gcgtcccgct cctgctgctg cctctgcccg tcctccacc cagcagcgag
780
gcctcgtgtg cttacgtgct gatcgtgact gctgtgtact ggggtgctgga ggcagtgcct
840
ctgggagctg cagccctggg gccggccttc ctctaccctg tcttcggagt cctccggctc
900
aatgaggtgg cggcgagta cttcaagaac accacgctgc tgetgggtgg ggtcatctgc
960
gtggcggtg ccgtggagaa gtggaacctg cataagcgca ttgctctgcg catggctctg
1020
atggccgggg ccaagccggg catgctgctg ctctgcttca tgtgctgtac cacgttgctg
1080
tccatgtggc tgtccaacac ctccaccacc gccatggtga tgcccatcgt ggaggccgtg
1140
ctgcaggagc tggtcagtgc tgaggacgag cagctcgtgg cgggcaactc caacaccgaa
1200
gaggccgaac ccatcagtct ggatgtaaag aacagccaac cttctctgga actcatcttt
1260
gtcaatgaag acaggtccaa cgcagacctc accactctga tgcacaacga gaacctgaat
1320
ggtgtgccct cgatcaccaa ccccatcaaa actgcaaac aacaccaggg caagaagcaa
1380
cacccatccc aggaaaagcc acaagtctg acccccagcc ccaggaagca gaagctgaac
1440
agaaagtaca ggtcccacca tgaccagatg atctgcaagt gcctctccct gagcatatcc
1500
tactccgcta ccattggcgg cctgaccacc atcatcggca cctccaccag cctcatcttc
1560
ctggaacact tcaacaacca gtatccagcc gcagagggtg tgaactttgg cacctgggtc
1620

ctcttcagct tccccatata cctcatcatg ctggtggtca gctggttctg gatgcactgg
 1680
 ctgttcctgg gctgcaattt taaagagacc tgctctctga gcaagaagaa gaagacacaaa
 1740
 aggggaacagt tgtcagagaa gaggatccaa gaagaatatg aaaaactggg agacattagc
 1800
 taccagaaaa tgggtgactgg atttttcttc atcctgatga cctgactgtg gtttaccggg
 1860
 gagcctggct ttgtccctgg ctgggattct ttctttgaaa agaaaggcta cctgactgat
 1920
 gccacagtct ctgtcttcct tggtctcttc ctcttcctca ttccagcgaa gaagccctgc
 1980
 tttgggaaaa agaattgatg agagaaccag gagcactcac tggggaccga gcccatcatc
 2040
 acgtggaagg acttccagaa gaccatgcc tgggagattg tcattctggt tgggggaggc
 2100
 tatgctctgg cttctggtag caagagctct ggctctcta catggattgg gaaccagatg
 2160
 ttgtccctga gcagcctccc accgtgggct gtcaccctgc tggcatgcat cctcgtgtcc
 2220
 attgtcactg agtttgtgag caaccagca accatcacca tcttcctgcc catcctgtgc
 2280
 agcctgtctg aaacgatgca cattaacccc ctctacaccc tgatcccagt caccatgtgc
 2340
 atctcctttg cagtgatgct gcctgtgggc aatcccccta atgccatcgt cttcagctat
 2400
 gggcactgcc agatcaaaga tatggtgaaa gctggcctgg gagtcaacgt tattggactg
 2460
 gtgatagtaa tgggtggccat caacacctgg ggagttagcc tcttccacct ggacacttac
 2520
 ccagcatggg cgaggggtcag caacatcact gatcaagcct aacgccaagt gtacaaactg
 2580
 gccaaccac aggagctgcc agtatccagc agtatctgga ccacaggcaa agaaaaccac
 2640
 taggaccacc aggagcacac aaccccagac ccacgccga gggcatccct ccaccagaag
 2700
 attccgccac ctcaagtga ctgcaggaat cctccaacaa ccacaaacac atcgttcgct
 2760
 gttagtgtct tcttcctgcc ctccagacca cagctcaaga aaacctaaag tttcaatata
 2820
 accataggct cacagaaaaa gaaaaagaaa ataaaaatta aattaaaaaa aaagaagaca
 2880
 aagaaaaaaa aaaaaaaaaa
 2900

<210> 3954

<211> 627

<212> PRT

<213> Homo sapiens

<400> 3954

Met Gly Leu Leu Gln Gly Leu Leu Arg Val Arg Lys Leu Leu Leu Val
 1 5 10 15
 Val Cys Val Pro Leu Leu Leu Leu Pro Leu Pro Val Leu His Pro Ser

[illegible]

450 455 460
 Trp Glu Ile Val Ile Leu Val Gly Gly Gly Tyr Ala Leu Ala Ser Gly
 465 470 475 480
 Ser Lys Ser Ser Gly Leu Ser Thr Trp Ile Gly Asn Gln Met Leu Ser
 485 490 495
 Leu Ser Ser Leu Pro Pro Trp Ala Val Thr Leu Leu Ala Cys Ile Leu
 500 505 510
 Val Ser Ile Val Thr Glu Phe Val Ser Asn Pro Ala Thr Ile Thr Ile
 515 520 525
 Phe Leu Pro Ile Leu Cys Ser Leu Ser Glu Thr Met His Ile Asn Pro
 530 535 540
 Leu Tyr Thr Leu Ile Pro Val Thr Met Cys Ile Ser Phe Ala Val Met
 545 550 555 560
 Leu Pro Val Gly Asn Pro Pro Asn Ala Ile Val Phe Ser Tyr Gly His
 565 570 575
 Cys Gln Ile Lys Asp Met Val Lys Ala Gly Leu Gly Val Asn Val Ile
 580 585 590
 Gly Leu Val Ile Val Met Val Ala Ile Asn Thr Trp Gly Val Ser Leu
 595 600 605
 Phe His Leu Asp Thr Tyr Pro Ala Trp Ala Arg Val Ser Asn Ile Thr
 610 615 620
 Asp Gln Ala
 625

<210> 3955
 <211> 522
 <212> DNA
 <213> Homo sapiens

<400> 3955
 nngaattcag aggactatgt ttttgacagt gtttctggga acaactttga atatacccta
 60
 gaagcttcaa aatcacttcg acagaagcca ggagacagta ccatgacgta cctgaacaaa
 120
 ggccagttct atcccatcac cttgaaggag gtgagcagca gtgaaaatcc atcatcccat
 180
 agcaaagtgc gaagtgtgat catggtggtt tttgctgaag aaaaagcag agaagatcag
 240
 ttaaggcatt ggaagtactg gcaactcccg cagcacaccg ctaaacaag atgcattgac
 300
 atagctgact ataaagaaag cttcaacact atcagtaaca tcgaggagat tgcgtataac
 360
 gccatttcct tcacatggga catcaacgat gaagcaaagg ttttcatctc tgtgaactgc
 420
 ttaagcacag atttctcttc ccagaaggga gtgaaggggt tgcctcttaa cattcaagtt
 480
 gataacctata gttacaacaa ccgcagcaac aagcctgtgc ac
 522

<210> 3956
 <211> 174
 <212> PRT
 <213> Homo sapiens

<400> 3956

Xaa Asn Ser Glu Asp Tyr Val Phe Asp Ser Val Ser Gly Asn Asn Phe
 1 5 10 15
 Glu Tyr Thr Leu Glu Ala Ser Lys Ser Leu Arg Gln Lys Pro Gly Asp
 20 25 30
 Ser Thr Met Thr Tyr Leu Asn Lys Gly Gln Phe Tyr Pro Ile Thr Leu
 35 40 45
 Lys Glu Val Ser Ser Ser Glu Asn Pro Ser Ser His Ser Lys Val Arg
 50 55 60
 Ser Val Ile Met Val Val Phe Ala Glu Asp Lys Ser Arg Glu Asp Gln
 65 70 75 80
 Leu Arg His Trp Lys Tyr Trp His Ser Arg Gln His Thr Ala Lys Gln
 85 90 95
 Arg Cys Ile Asp Ile Ala Asp Tyr Lys Glu Ser Phe Asn Thr Ile Ser
 100 105 110
 Asn Ile Glu Glu Ile Ala Tyr Asn Ala Ile Ser Phe Thr Trp Asp Ile
 115 120 125
 Asn Asp Glu Ala Lys Val Phe Ile Ser Val Asn Cys Leu Ser Thr Asp
 130 135 140
 Phe Ser Ser Gln Lys Gly Val Lys Gly Leu Pro Leu Asn Ile Gln Val
 145 150 155 160
 Asp Thr Tyr Ser Tyr Asn Asn Arg Ser Asn Lys Pro Val His
 165 170

<210> 3957

<211> 3891

<212> DNA

<213> Homo sapiens

<400> 3957

nnctgcaggg aagccaatga tgccctcaat gcgtatgtgt gcaaaggcct cccccagcat
 60
 gaagaaatct gcctgggcct gtttactctc atcctcactg aacctgcca agcccagaag
 120
 tgttaccggg acttagctct ggtgagtcgt gatggcatga atattgtcct gaataaaatc
 180
 aaccagatac ttatggagaa gtacctgaag ctgcaggata cctgccgtac tcagttggtg
 240
 tggttggtac gggaactggt gaagagtggg gttctgggag ccgatggtgt ttgtatgacg
 300
 tttatgaagc agattgcagg tggagatggt acagccaaaa atatctggtt ggcagaaagt
 360
 gttctggata tcttgacaga gcaaaggag tgggtcctga agagcagcat cctcattgcc
 420
 atggctgttt acacgtacct ccgcctcctc gtggaccacc atgggactgc ccagctccag
 480
 gccctgcgac agaaggaagt agacttctgc atctcactgc ttcgggaacg gttcatggaa
 540
 tgtctgatga ttggtcgga tctcgtaaga ctacttcaga atgttgctag gataccagaa
 600
 tttgaactgc tttggaaaga tattatccat aatcctcagg ccttgagtcc tcagttcaca
 660
 ggtatcctac agcttcttca gtcaagaaca tcccgaaaat tcctagcatg tcgtctaacc
 720

ccggacatgg agactaaact cctcttcatg acatcccggg tgcgatttgg tcaacaaaag
780
cgataccaag attggttcca gcgccagtac ctgtcaactc cagatagtca gtctctgcgc
840
tgtgacctca ttcgctacat ctgtggggta gtccaccctt ctaatgaagt actgagttca
900
gatatcttgc cccggtgggc catcattggg tggctcctga caacgtgcac gtcaaattgc
960
gctgcctcca atgccaagct ggctttgttt tatgactggc tgttcttttag tccagacaag
1020
gatagcatta tgaacataga accagccatc ctggatcatg accactccat gaagccccac
1080
ccagccatca ctgccacact cctggacttc atgtgccgca tcattcccaa cttctatcca
1140
ccattggagg gccacgtgcg gcagggtgtc ttttctctcc tcaaccacat tgtggagaaa
1200
cgggtcttgg cgtgtaaaaa gtattggctc tacctcagac tgctgggcat atgtcttctt
1260
nggctcttag aggaatttct ctctgcat cgtattaca agacacctag ctccccgtt
1320
tgacaacct aagttggata aggagctgcg ggcaatgtg agagagaagt ttctgagtt
1380
ctgcagctca cctcccccac ctgtggaagt caaaattgag gagccagttt ccatggagat
1440
ggacaaccat atgtcggata aggatgagag ttgctatgac aatgcagagg cagccttcag
1500
tgacgatgaa gaggatctca acagcaaagg aaagaaggagg gagtttcgct tccaccctat
1560
caaggagaca gttgtggagg agccagttga tatcaccctt taccttgacc agttggatga
1620
gtccctgagg gacaaagtac tccagctaca gaaggggagt gatacggagg cccagtgtga
1680
ggatcatgag gaaattgtgg accaggtcct ggaggaagac tttgactcgg agcagctgtc
1740
tgtccttgc tctgcctac aggagctctt caaggccac tttcgagggg aggtcctgcc
1800
tgaggagatt actgaggagt cctggagga gtctgttaga aagcctctgt acctaattt
1860
taggaaccta tgatgatgc aggaagacaa cagcagcttc tctctacttc tagaccttct
1920
ctccgagcta tatcagaagc agcccaagat tggctaccac ctgctctact acctgagggc
1980
cagcaaagcc gccgcaggga agatgaacct gtacgagtca tttgccagg ctaccagct
2040
gggcatctg cacacctgcc tgatgatgga catgaaggcc tgccaggagg acgatgtgcg
2100
gtcctgtgc cacctcacgc cctccatcta cacagagttt ccagatgaaa ccttgaggag
2160
cggagagctg ctgaacatga tcgtggctgt tattgactct gcacagctcc aggagctggg
2220
ctgccacgtg atgatgggta acctgggtat gtttcgaaaa gactcagttc tcaacatact
2280
cattcagagc ctagactggg agacctttga gcagtattgt gcctggcagc tctttctggc
2340

ccacaatatt cccctggaga ccataatccc catcctgcag cacctcaaat acaaggagca
2400
cccagaggcc ctgtcctgcc tactgcttca actccgaaga gaaaagccca gcgaggagat
2460
ggtgaagatg gtgctgagcc ggcctgccca tcctgacgac cagttcacca ccagcatcct
2520
gcggcactgg tgcataaaac atgacgagct gctggccgag cacatcaagt ccctgctcat
2580
caagaacaac agcctgcctc gcaagagaca gagcctgagg agctctagca gcaagctggc
2640
ccagctgact ctggagcaga tcctggagca cttggacaat ctgcggctca acctgaccaa
2700
caccaagcag aactttttta gccagacccc aattctccag gcgctgcagc atgtccaagc
2760
gagctgtgac gaagcccaca agatgaaatt cagtgatctc ttctccctgg cggaggaata
2820
tgaggactct tccaccaagc caccaagag ccggcgaaaa gcagctctgt ccagccctcg
2880
aagtcgaaag aatgccacac agccccccaa tgccgaagaa gagtcgggct ccagcagtcg
2940
ttcagaagag gaagacacga aaccgaagcc taccaagcgg aaacgaaaag ggtcctctgc
3000
agtgggctct gacagtgact gaggccctgc attccccatc ccacccccgg ctggactgcc
3060
ctctccttct tggtgattca aaggttaata gaggtgagg agattgcagg ggaaacacc
3120
ttgctgcatc cccaagctcc cccggtggaa ggaggagctt tctcctctgg ctgagtttga
3180
gaagctgccca tgcagccctc agccccctcc ctctcctctg ggctccagc ccctcacact
3240
gctgttccca gtgatatattg ggatctgact gaagccagag gctctgtaaa atcagaccat
3300
agtggaagtc ctacagcccc tggccccctc cgcaatctcc tccccagtc tcccaaagag
3360
ccatttcaac agagaaggga aatgacaaag gggcagctgg ccagataagc taggatgaga
3420
gcagagactc agtgtgtggg tgtcccttcc tgcctccctc tcaggtcttg gtttgttctg
3480
aagggacgtt ttatagtcac tatccacatg ccagtgtgaa atgggcatct atgacgtgg
3540
caggggtgcc attcctaata atggggcaga tgccacaagc attcagaaaag gagtctgaaa
3600
gggtggccac agccccacgt ggtgtgccct ggaggcttag gttggtctga ggttggcacc
3660
tcaatctaca ccagagccca gggagtccca gaggcaagtt tcacagaatt gtcaaatgat
3720
cccatttcct tgagtctgtt tttttttttt tttttttttg tttttttttt ggcagagata
3780
atcgtgtctt aaaagtgtt tttaaatgac aataaaacaa gccagaatgt caaaaaaaaa
3840
aaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa a
3891

<210> 3958

<211> 440
 <212> PRT
 <213> Homo sapiens

<400> 3958

```

Xaa Cys Arg Glu Ala Asn Asp Ala Leu Asn Ala Tyr Val Cys Lys Gly
 1           5           10           15
Leu Pro Gln His Glu Glu Ile Cys Leu Gly Leu Phe Thr Leu Ile Leu
          20           25           30
Thr Glu Pro Ala Gln Ala Gln Lys Cys Tyr Arg Asp Leu Ala Leu Val
          35           40           45
Ser Arg Asp Gly Met Asn Ile Val Leu Asn Lys Ile Asn Gln Ile Leu
          50           55           60
Met Glu Lys Tyr Leu Lys Leu Gln Asp Thr Cys Arg Thr Gln Leu Val
        65           70           75           80
Trp Leu Val Arg Glu Leu Val Lys Ser Gly Val Leu Gly Ala Asp Gly
          85           90           95
Val Cys Met Thr Phe Met Lys Gln Ile Ala Gly Gly Asp Val Thr Ala
          100          105          110
Lys Asn Ile Trp Leu Ala Glu Ser Val Leu Asp Ile Leu Thr Glu Gln
          115          120          125
Arg Glu Trp Val Leu Lys Ser Ser Ile Leu Ile Ala Met Ala Val Tyr
          130          135          140
Thr Tyr Leu Arg Leu Ile Val Asp His His Gly Thr Ala Gln Leu Gln
        145          150          155          160
Ala Leu Arg Gln Lys Glu Val Asp Phe Cys Ile Ser Leu Leu Arg Glu
          165          170          175
Arg Phe Met Glu Cys Leu Met Ile Gly Arg Asp Leu Val Arg Leu Leu
          180          185          190
Gln Asn Val Ala Arg Ile Pro Glu Phe Glu Leu Leu Trp Lys Asp Ile
          195          200          205
Ile His Asn Pro Gln Ala Leu Ser Pro Gln Phe Thr Gly Ile Leu Gln
          210          215          220
Leu Leu Gln Ser Arg Thr Ser Arg Lys Phe Leu Ala Cys Arg Leu Thr
        225          230          235          240
Pro Asp Met Glu Thr Lys Leu Leu Phe Met Thr Ser Arg Val Arg Phe
          245          250          255
Gly Gln Gln Lys Arg Tyr Gln Asp Trp Phe Gln Arg Gln Tyr Leu Ser
          260          265          270
Thr Pro Asp Ser Gln Ser Leu Arg Cys Asp Leu Ile Arg Tyr Ile Cys
          275          280          285
Gly Val Val His Pro Ser Asn Glu Val Leu Ser Ser Asp Ile Leu Pro
          290          295          300
Arg Trp Ala Ile Ile Gly Trp Leu Leu Thr Thr Cys Thr Ser Asn Val
        305          310          315          320
Ala Ala Ser Asn Ala Lys Leu Ala Leu Phe Tyr Asp Trp Leu Phe Phe
          325          330          335
Ser Pro Asp Lys Asp Ser Ile Met Asn Ile Glu Pro Ala Ile Leu Val
          340          345          350
Met His His Ser Met Lys Pro His Pro Ala Ile Thr Ala Thr Leu Leu
          355          360          365
Asp Phe Met Cys Arg Ile Ile Pro Asn Phe Tyr Pro Pro Leu Glu Gly
          370          375          380
His Val Arg Gln Gly Val Phe Ser Ser Leu Asn His Ile Val Glu Lys

```

```

385          390          395          400
Arg Val Leu Ala Cys Lys Lys Tyr Trp Leu Tyr Leu Arg Leu Leu Gly
          405          410          415
Ile Cys Leu Leu Xaa Leu Leu Glu Glu Phe Leu Ser Cys His Arg Ile
          420          425          430
Thr Lys Thr Pro Ser Ser Pro Val
          435          440

```

<210> 3959
 <211> 752
 <212> DNA
 <213> Homo sapiens

```

<400> 3959
cccagcagtt cacaggaaga gagcttcggt gggtcagatg gtcaacagta tcaaaatatt
60
caacagagac cactctgtgg gttttcaaat gataggatac acatcagcag tcctctggga
120
agaaaatgtc ttctcccata tacagagacc ctcataccat ttggggacat tgccccaaaa
180
ggacgggctt tggcgtgaaa gaacatttct accccggctg tttgtgtgct gtcatcccag
240
gtcagggctg aataatgacc acttggtaga cctgggtgctc acagagcctt catttggtg
300
tataaggggc caaattcacc tctcgatttc ctttttctct ttcagaatgc agtttccaag
360
tacggctctc agttccaagg caattcccag cacgacgccc tggaattcct gctctgggtg
420
ctggatcgtg tacatgagga cctggagggt tcatcccgat gggccagggtg tcggagaagc
480
ttcgcctga agccactaaa acctctgaga actgcctgct accatcagct cagcttctct
540
taggtcaaag cttgtgcaaa ccactttcaa gcacaatata gatcttcgtt gattgtcccc
600
actgcttgaa cagagcacac tttgtccttc ctgggtgtgt cctactatcg cttgcgcgac
660
ggggtctgag tgtacttggg ttctctctaa gcaacgttct gcggttggtc gcgtgcgac
720
tcagaaatgg acctgggaga tttgaaagag ag
752

```

<210> 3960
 <211> 94
 <212> PRT
 <213> Homo sapiens

```

<400> 3960
Pro Leu Gly Arg Pro Gly Ala His Arg Ala Phe Ile Trp Leu Tyr Lys
 1          5          10          15
Gly Pro Asn Ser Pro Leu Asp Phe Leu Phe Ser Phe Gln Asn Ala Val
          20          25          30
Ser Lys Tyr Gly Ser Gln Phe Gln Gly Asn Ser Gln His Asp Ala Leu
          35          40          45
Glu Phe Leu Leu Trp Leu Leu Asp Arg Val His Glu Asp Leu Glu Gly

```

50	55	60
Ser Ser Arg Trp Ala Arg Cys Arg Arg Ser Phe Arg Leu Lys Pro Leu		
65	70	75
Lys Pro Leu Arg Thr Ala Cys His His Gln Leu Ser Phe Leu		80
	85	90

<210> 3961
 <211> 2505
 <212> DNA
 <213> Homo sapiens

<400> 3961
 nngcggaggc ggcgttgccg ggctctccgg aaggagacgt ggcggcgggtt gggccgggtga
 60
 taccggggcg ctttatagtc ccgccgctc ctctccacc tctcctcct cctcctctcc
 120
 tcctggggca gaggagggtg tggcgggtggc tggagaaagc ggcggcggag gatggaggaa
 180
 ggaggcggcg gcgtacggag tctgggtcccg ggcgggcccgg tgttactggt cctctgcggc
 240
 ctcttgaggc cgtccggcgg cgcccgagcc ctctctcaac tcagcgatga catccctttc
 300
 cgagtcaact ggcccggcac cgagttctct ctgcccacaa ctggagtttt atataaagaa
 360
 gataattatg tcatcatgac aactgcacat aaagaaaaat ataatgcat acttcccctt
 420
 gtgacaagtg gggatgagga agaagaaaag gattataaag gccctaattc aagagagctt
 480
 ttggagccac tatttaaaca aagcagttgt tcctacagaa ttgagtctta ttggacttac
 540
 gaagtatgtc atggaaaaca cattcggcag taccatgaag agaaagaaac tggtcagaaa
 600
 ataatattc acgagtacta ccttggaat atgttgcca agaacttct atttgaaaaa
 660
 gaacgagaag cagaagaaaa ggaaaaatca aatgagattc ccactaaaaa tatcgaagg
 720
 cagatgacac catactatcc tgtgggaatg ggaaatggta cacctttag tttgaaacag
 780
 aaccggccca gatcaagtac tgtgatgtac atatgtcatc ctgaatctaa gcatgaaatt
 840
 ctttcagtag ctgaagttac aacttgtgaa tatgaagttg tcattttgac accactcttg
 900
 tgcagtcac ctaaatatag gttcagagca tctcctgtga atgacatatt ttgtcaatca
 960
 ctgccaggat ctccatttaa gccctcacc ctgaggcagc tggagcagca ggaagaaata
 1020
 ctaagggtgc cttttaggag aaataaagag gaagatttgc agtcaactaa agaagagaga
 1080
 tttccagcga tccacaagtc gattgctatt ggctctcagc cagtgtcac tgttgggaca
 1140
 accacatat ccaaattgac agatgaccaa ctcataaaag agtttcttag tggttcttac
 1200
 tgctttcgtg ggggtgtcgg ttggtggaaa tatgaattct gctatggcaa acatgtacat
 1260

caataccatg aggacaagga tagtgggaaa acctctgtgg ttgtcgggac atggaaccaa
 1320
 gaagagcata ttgaatgggc taagaagaat actgctagag cttatcatct tcaagacgat
 1380
 ggtacccaga cagtcaggat ggtgtcacat ttttatggaa atggagatat ttgtgatata
 1440
 actgacaaac caagacaggt gactgtaaaa ctaaagtgc aagaatcaga ttcacctcat
 1500
 gctgttactg tatatatgct agagcctcac tcctgtcaat atattcttgg ggttgaatct
 1560
 ccagtgtct gtaaaatctt agatacagca gatgaaaatg gacttctttc tctccccaac
 1620
 taaaggatat taaagttagg ggaaagaaaa gatcattgaa agtcatgata atttctgtcc
 1680
 cactgtgtct cattatagag ttctcagcca ttggacctct tctaaaggat ggtataaaat
 1740
 gactctcaac cactttgtga atacatatgt gtatataaga ggttattgat aaacttctga
 1800
 ggcagacatt tgtctcgtt ttttccattt ttgttgtgtc ttataaactg actgtttttc
 1860
 tttgcttga tactgtgatt ccaaaataaa tctcatccaa gcaagttaga gtccagccta
 1920
 atcaaagtgc ataattgttg tacctattga aagtttttaa ataataagatt tattatgtaa
 1980
 attatagtat atgtaagtag ctaatgaagt aaagatcatg aagaagaaa ttgatagggt
 2040
 taaatgagag accatgtaaa atatgtaaat tctagtacct gaaatccttt caacagattt
 2100
 ttatatagca actgctctct gcaagtagtt aaactagaaa ctgggcacat ggtagaggct
 2160
 cacatgggag ttgtcctcac ccttggttaat ctcaagaaac tcttatttat aatagggtgc
 2220
 ttctctctca gaacttttat ctattacttt tttctcttta tgagtatggt tactctcaga
 2280
 gtatctatct gatgtagaca gttggtgatg cttctgagac tcagaatggt ttactctaac
 2340
 aaaacactgt gctgtctatc ccttgtaact gcctactgta atatggattt cacttctgaa
 2400
 cagtttacag cacaatatat attttaagt gaataaaatg tccacaagca gtgttgtcat
 2460
 gtagtcaatg gcaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaa
 2505

<210> 3962

<211> 306

<212> PRT

<213> Homo sapiens

<400> 3962

Thr	Lys	Asn	Ile	Glu	Gly	Gln	Met	Thr	Pro	Tyr	Tyr	Pro	Val	Gly	Met
1				5				10						15	
Gly	Asn	Gly	Thr	Pro	Cys	Ser	Leu	Lys	Gln	Asn	Arg	Pro	Arg	Ser	Ser
			20					25					30		
Thr	Val	Met	Tyr	Ile	Cys	His	Pro	Glu	Ser	Lys	His	Glu	Ile	Leu	Ser

```

      35      40      45
Val Ala Glu Val Thr Thr Cys Glu Tyr Glu Val Val Ile Leu Thr Pro
 50      55      60
Leu Leu Cys Ser His Pro Lys Tyr Arg Phe Arg Ala Ser Pro Val Asn
 65      70      75      80
Asp Ile Phe Cys Gln Ser Leu Pro Gly Ser Pro Phe Lys Pro Leu Thr
      85      90      95
Leu Arg Gln Leu Glu Gln Gln Glu Glu Ile Leu Arg Val Pro Phe Arg
      100      105      110
Arg Asn Lys Glu Glu Asp Leu Gln Ser Thr Lys Glu Glu Arg Phe Pro
      115      120      125
Ala Ile His Lys Ser Ile Ala Ile Gly Ser Gln Pro Val Leu Thr Val
      130      135      140
Gly Thr Thr His Ile Ser Lys Leu Thr Asp Asp Gln Leu Ile Lys Glu
 145      150      155      160
Phe Leu Ser Gly Ser Tyr Cys Phe Arg Gly Gly Val Gly Trp Trp Lys
      165      170      175
Tyr Glu Phe Cys Tyr Gly Lys His Val His Gln Tyr His Glu Asp Lys
      180      185      190
Asp Ser Gly Lys Thr Ser Val Val Val Gly Thr Trp Asn Gln Glu Glu
      195      200      205
His Ile Glu Trp Ala Lys Lys Asn Thr Ala Arg Ala Tyr His Leu Gln
      210      215      220
Asp Asp Gly Thr Gln Thr Val Arg Met Val Ser His Phe Tyr Gly Asn
 225      230      235      240
Gly Asp Ile Cys Asp Ile Thr Asp Lys Pro Arg Gln Val Thr Val Lys
      245      250      255
Leu Lys Cys Lys Glu Ser Asp Ser Pro His Ala Val Thr Val Tyr Met
      260      265      270
Leu Glu Pro His Ser Cys Gln Tyr Ile Leu Gly Val Glu Ser Pro Val
      275      280      285
Ile Cys Lys Ile Leu Asp Thr Ala Asp Glu Asn Gly Leu Leu Ser Leu
 290      295      300
Pro Asn
305

```

<210> 3963

<211> 1513

<212> DNA

<213> Homo sapiens

<400> 3963

```

cttaagggtgt attaatccgt cactataccc agataaacag agatggccat ggcattctttt
 60
ctactctttt attttacaaa gggaatgatg aaagggtggaa acaaacaaga agaagcgtgg
 120
ataaatccat ttgttaaaca gttttcaaac atcagttttt cgagagactc accagaggaa
 180
aatgtacaaa gcaataagat ggacctttct ggaggaatgt tacaagacaa acgaatggag
 240
atagataaac atagcctaaa tattggtgat tacaatcgaa cggtcgggaa aggccttggt
 300
tctcggcctc agatttccaa agagtcttcc atggagcgca atccttattt tgataagaat
 360

```


ggcaatccca gatatgttgg tgttggaac acagcagcac aaccccgggg catgcagcag
 420
 cctccagcac aacctcttag ttcattctcag cctaattctcc gtgctcaagt gcctcctcca
 480
 ttactctccc ctcagggtcc agtttcattg ctgaagtatg caccaaaca cgggtggcctg
 540
 aatccactct ttggccctca acaggtagcc atgctgaacc agctatccca gctaaaccag
 600
 ctttctcaga tctcccagtt acagcgattg ttagcgagc agcaaagggc gcagagtcag
 660
 agaagcgtgc cttctgggaa cgggccgag caagaccagc agggctgacc tcttagtgtg
 720
 cagcagcaaa tgatgcaaca atctcgtcaa cttgatccaa acctgttggg gaagcagcag
 780
 actccaccat ctcagcagca gccactccat cagccagcca tgaagtcttt ccttgacaat
 840
 gtcatgcccc aactacacc tgagctgcaa aaagggccat caccaataaa tgctttcagc
 900
 aacttcccta taggcttgaa ctcaaacttg aatgtaaata tggatatgaa cagtattaaa
 960
 gagccacagt caagactaag gaagtggacg acagtggaca gcatttctgt gaacacatct
 1020
 ttggatcaaa actccagcaa acatgggtgct atttcaagtg gtttcaggct ggaagagtct
 1080
 ccatttgttc cctatgactt tatgaacagc agtacttcac cagccagtcc tccaggttca
 1140
 ataggagatg gctggccacg tgccaaatcg cctaacggct ctagcagtgt taattggcca
 1200
 ccagaatttc gtctgggtga gccatggaaa gggtatccaa acattgacct tgaaactgac
 1260
 ccttacgtca ctctggcag tgcataaac aatcttccaa ttaatactgt gcgggaagt
 1320
 gaccacctca gggacaggaa cagtgggtacg taggggggtgc aaatcaattt ctgagtgaca
 1380
 cttaacacag ttaagaatg gctcatgtag taaccagcta ctctgggcga ctgagcccag
 1440
 ggtactctgg gatcacttga gccaggagc ttgagcaagc ctgggcaaca tagttgtggg
 1500
 acctgtctc ttt
 1513

<210> 3964

<211> 436

<212> PRT

<213> Homo sapiens

<400> 3964

Met	Ala	Met	Ala	Ser	Phe	Leu	Leu	Phe	Tyr	Phe	Thr	Lys	Gly	Met	Met
1				5					10					15	
Lys	Gly	Gly	Asn	Lys	Gln	Glu	Glu	Ala	Trp	Ile	Asn	Pro	Phe	Val	Lys
			20					25					30		
Gln	Phe	Ser	Asn	Ile	Ser	Phe	Ser	Arg	Asp	Ser	Pro	Glu	Glu	Asn	Val
		35					40					45			
Gln	Ser	Asn	Lys	Met	Asp	Leu	Ser	Gly	Gly	Met	Leu	Gln	Asp	Lys	Arg

```
<210> 3965
<211> 2850
<212> DNA
<213> Homo sapiens
```

<400> 3965
ngttgcgggg ccacccttcc cgctggtttc cctcgtggtg tgtaaaggca gagaggaaaag
60
gcgaggggtg ttgacgccag gaaggttcca tcttggttaa gggcaggagt cccttacgga
120
cttgtctgag gaaagacagg aaagcgccag catctccacc tccccggaa gcctcccttt
180
gccaggcaga aagggtttcc catggggccg cccctggcgc cgcgccggc ccacgtaccc
240
ggggaggccg ggccccggag gacgagggaa agcaggccgg gcgcgtgag cttcgcggac
300
gtggccgtgt acttctctcc cgaggagtgg gaatgcctgc ggccagcgca gagggccctg
360
taccgggacg tgatgcggga gaccttcggc cacctgggcg cgctgggtga ggccggggcc
420
tccggccggg acccccagtc cgtcggattt tcagttccca aaccgcttt tatctcgtgg
480
gtggaaggag aagtggaggc gtggagcccg gaggccagg atcccgacgg tgagagctct
540
gcagctttca gcaggggcca aggacaggaa gcaggatcca gggatgggaa tgaggagaag
600
gaaaggctga agaagtgtcc aaaacaaaaa gaggtggcgc atgaagtggc tgtcaaggag
660
tggtggccca gcgtgcctg cccagagttc tgcaacccta ggcagagccc catgaatccc
720
tggtcaagg acactctgac ccgaagactg cccactctt gccagactg tggccgcaac
780
ttcagctacc cttccctcct ggccagccac cagcgggtcc actccgggga gcggcccttc
840
tcctgcggcc agtgtcaggc gcgtttctcc cagcgcaggc acctgctcca gcatcagttc
900
atccacaccg gcgagaagcc ctaccctgac cccgactgag ggcgcgctt ccgccagagg
960
ggttccctgg ctatccacag gcgggctcac accggggaga agccttacgc gtgctcagac
1020
tgcaagagtc gcttactta cccctacctg ctggccatcc accagcgcaa gcacacgggc
1080
gagaagccct acagctgccc cgattgcagc ctccgtttcg cctacacctc cctgctggcc
1140
atccacaggc gcatacacac cggcgagaag ccctaccctt gtctgactg cggccgcccg
1200
ttcacctatt cttccctcct cctcagtcac cggcgcatte actccgacag ccggcccttc
1260
ccctgcgtgg agtgtgggaa aggcttcaag cgcaagaccg ccctggaagc ccatcggtgg
1320
atccaccgct cctgcagcga gaggcgcgcg tggcagcagg ccgtgggtgg gcgttcagag
1380
cccatccctg ttttgggagg caaggatccc ccagttcact tccggcactt tccagatata
1440
tttcaagagt tctgtcaaca gaggttctag gaccgcgggg tcccttcaaa tgccccgcca
1500
gtcccaggcc aatcaccgag cagcttcttc cgggatcgtc gccaatcatc ggccgttgag
1560

tattgcgggc acagaggggt aagtgaagct tcgggccctt acatctttct tgaaggcaag
 1620
 aagcctctcc tctacttccc agacaccccg cctccccac tagaaaaagc agccgaagcg
 1680
 gctttattta agggcaagtg ggacgatgag gccagagaaa tggcgccgcc cccagccccg
 1740
 ctctggcgcg cgaggcccg ggagaccgg cctgggtgca ggaagcccg gactgtgagc
 1800
 ttcgcggaag tgccgtgta cttctccccg gaggagtggg gctgtctgcg gcccgcgag
 1860
 agggctctgt accgggacgt gatgcaggag acctacggcc acctgggcg gctcggattc
 1920
 ccaggcccca aaccagccct catctcttgg atggaacagg agagtgaggc ttggagcccc
 1980
 gccgcccagg atcctgagaa gggggaaaga ctgggaggag ctcgagagg agatgtccca
 2040
 aacaggaagg aagaggaacc ggaggaagtc ccaagagcca aagggcctag aaaggctcct
 2100
 gtgaaggaga gtcctgaagt gctggtggaa cgcaaccctg acccagctat tagcgtggcc
 2160
 ccggcacggg cacagccacc caaaaatgct gcctgggacc cgaccacagg agcacagccc
 2220
 ccggcaccca taccagcat ggatgctcag gccggccagc ggcgccacgt gtgcacggac
 2280
 tgcggccgcc gcttcaccta cccctcactg ctggtcagcc acaggcgcat gactcgggg
 2340
 gaggcgctt tccctgccc cgagtgtggc atgcgcttca agaggaagtt cgcagtggaa
 2400
 gcgcaccagt ggatccaccg ctctgctcc gggggcggc ggggcccggag gcctgggatc
 2460
 cgggctgtgc ctcgggcccc cgtccgaggt gaccgggacc cgctgtgct cttccggcac
 2520
 taccagaca tcttcgagga gtgcggctga gcggcaccgc aggctggagt tgagcctgac
 2580
 cttggcacga aggactgacg gatccctgag gtgggccact gagtcgggga ctccggaact
 2640
 gaaattcatg ccctgggctt tcctcaagga tccctcaagt ttccaacttg taaaaagaaa
 2700
 agtgctgtga aagattcgaa tagattagac ttgccacca tctccccagt cttttgttta
 2760
 acaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aagagagtga gaccctggac tcatttcaaa
 2820
 gtgttatctg aagatcaggt gcaacagaga
 2850

<210> 3966

<211> 782

<212> PRT

<213> Homo sapiens

<400> 3966

Met Gly Pro Pro Leu Ala Pro Arg Pro Ala His Val Pro Gly Glu Ala
 1 5 10 15
 Gly Pro Arg Arg Thr Arg Glu Ser Arg Pro Gly Ala Val Ser Phe Ala

				20					25				30		
Asp	Val	Ala	Val	Tyr	Phe	Ser	Pro	Glu	Glu	Trp	Glu	Cys	Leu	Arg	Pro
		35					40					45			
Ala	Gln	Arg	Ala	Leu	Tyr	Arg	Asp	Val	Met	Arg	Glu	Thr	Phe	Gly	His
	50					55					60				
Leu	Gly	Ala	Leu	Gly	Glu	Ala	Gly	Pro	Ser	Gly	Arg	Asp	Pro	Gln	Ser
65					70					75					80
Val	Gly	Phe	Ser	Val	Pro	Lys	Pro	Ala	Phe	Ile	Ser	Trp	Val	Glu	Gly
				85					90					95	
Glu	Val	Glu	Ala	Trp	Ser	Pro	Glu	Ala	Gln	Asp	Pro	Asp	Gly	Glu	Ser
			100					105					110		
Ser	Ala	Ala	Phe	Ser	Arg	Gly	Gln	Gly	Gln	Glu	Ala	Gly	Ser	Arg	Asp
		115					120					125			
Gly	Asn	Glu	Glu	Lys	Glu	Arg	Leu	Lys	Lys	Cys	Pro	Lys	Gln	Lys	Glu
	130					135					140				
Val	Ala	His	Glu	Val	Ala	Val	Lys	Glu	Trp	Trp	Pro	Ser	Val	Ala	Cys
145					150					155					160
Pro	Glu	Phe	Cys	Asn	Pro	Arg	Gln	Ser	Pro	Met	Asn	Pro	Trp	Leu	Lys
			165						170					175	
Asp	Thr	Leu	Thr	Arg	Arg	Leu	Pro	His	Ser	Cys	Pro	Asp	Cys	Gly	Arg
			180					185					190		
Asn	Phe	Ser	Tyr	Pro	Ser	Leu	Leu	Ala	Ser	His	Gln	Arg	Val	His	Ser
	195					200					205				
Gly	Glu	Arg	Pro	Phe	Ser	Cys	Gly	Gln	Cys	Gln	Ala	Arg	Phe	Ser	Gln
	210					215					220				
Arg	Arg	Tyr	Leu	Leu	Gln	His	Gln	Phe	Ile	His	Thr	Gly	Glu	Lys	Pro
225					230					235					240
Tyr	Pro	Cys	Pro	Asp	Cys	Gly	Arg	Arg	Phe	Arg	Gln	Arg	Gly	Ser	Leu
			245						250					255	
Ala	Ile	His	Arg	Arg	Ala	His	Thr	Gly	Glu	Lys	Pro	Tyr	Ala	Cys	Ser
			260					265					270		
Asp	Cys	Lys	Ser	Arg	Phe	Thr	Tyr	Pro	Tyr	Leu	Leu	Ala	Ile	His	Gln
	275					280						285			
Arg	Lys	His	Thr	Gly	Glu	Lys	Pro	Tyr	Ser	Cys	Pro	Asp	Cys	Ser	Leu
	290					295					300				
Arg	Phe	Ala	Tyr	Thr	Ser	Leu	Leu	Ala	Ile	His	Arg	Arg	Ile	His	Thr
305					310					315					320
Gly	Glu	Lys	Pro	Tyr	Pro	Cys	Pro	Asp	Cys	Gly	Arg	Arg	Phe	Thr	Tyr
			325						330					335	
Ser	Ser	Leu	Leu	Leu	Ser	His	Arg	Arg	Ile	His	Ser	Asp	Ser	Arg	Pro
		340						345					350		
Phe	Pro	Cys	Val	Glu	Cys	Gly	Lys	Gly	Phe	Lys	Arg	Lys	Thr	Ala	Leu
	355					360						365			
Glu	Ala	His	Arg	Trp	Ile	His	Arg	Ser	Cys	Ser	Glu	Arg	Arg	Ala	Trp
	370					375					380				

450		455		460
Gly Pro Tyr Ile Phe Leu Glu Gly Lys Lys Pro Leu Leu Tyr Phe Pro				
465		470		475
Asp Thr Pro Pro Pro Pro Leu Glu Lys Ala Ala Glu Ala Ala Leu Phe				
	485		490	495
Lys Gly Lys Trp Asp Asp Glu Ala Arg Glu Met Ala Pro Pro Pro Ala				
	500		505	510
Pro Leu Leu Ala Pro Arg Pro Gly Glu Thr Arg Pro Gly Cys Arg Lys				
	515		520	525
Pro Gly Thr Val Ser Phe Ala Asp Val Ala Val Tyr Phe Ser Pro Glu				
	530		535	540
Glu Trp Gly Cys Leu Arg Pro Ala Gln Arg Ala Leu Tyr Arg Asp Val				
545		550		555
Met Gln Glu Thr Tyr Gly His Leu Gly Ala Leu Gly Phe Pro Gly Pro				
	565		570	575
Lys Pro Ala Leu Ile Ser Trp Met Glu Gln Glu Ser Glu Ala Trp Ser				
	580		585	590
Pro Ala Ala Gln Asp Pro Glu Lys Gly Glu Arg Leu Gly Gly Ala Arg				
	595		600	605
Arg Gly Asp Val Pro Asn Arg Lys Glu Glu Glu Pro Glu Glu Val Pro				
	610		615	620
Arg Ala Lys Gly Pro Arg Lys Ala Pro Val Lys Glu Ser Pro Glu Val				
625		630		635
Leu Val Glu Arg Asn Pro Asp Pro Ala Ile Ser Val Ala Pro Ala Arg				
	645		650	655
Ala Gln Pro Pro Lys Asn Ala Ala Trp Asp Pro Thr Thr Gly Ala Gln				
	660		665	670
Pro Pro Ala Pro Ile Pro Ser Met Asp Ala Gln Ala Gly Gln Arg Arg				
	675		680	685
His Val Cys Thr Asp Cys Gly Arg Arg Phe Thr Tyr Pro Ser Leu Leu				
	690		695	700
Val Ser His Arg Arg Met His Ser Gly Glu Arg Pro Phe Pro Cys Pro				
705		710		715
Glu Cys Gly Met Arg Phe Lys Arg Lys Phe Ala Val Glu Ala His Gln				
	725		730	735
Trp Ile His Arg Ser Cys Ser Gly Gly Arg Arg Gly Arg Arg Pro Gly				
	740		745	750
Ile Arg Ala Val Pro Arg Ala Pro Val Arg Gly Asp Arg Asp Pro Pro				
	755		760	765
Val Leu Phe Arg His Tyr Pro Asp Ile Phe Glu Glu Cys Gly				
770		775		780

<210> 3967

<211> 892

<212> DNA

<213> Homo sapiens

<400> 3967

naccggcccc gacccggcgc cgcgcgcggc ggaggacgag gaagagttgt ggcgaggcag
 60
 atcctgcccc gtggccgcgc ccgtctcgta ggggacaccg tgggtgtttaa ggatggccag
 120
 tactggatcc gaggccggac ctcatggac atcatcaaga ctggaggcta caaggtcagc
 180

gccctggagg tggagtggca cctgctggcc caccacagca tcacagatgt ggctgtgatt
 240
 ggagttccgg atatgacatg gggccagcgg gtcactgctg tggtgaccct ccgagaagga
 300
 cactcactgt cccacagggg gctcaaagag tgggcccagaa atgtcctggc cccgtacgcy
 360
 gtgccctcgg agctgggtgt ggtggaggag atcccgcgga accagatggg caagattgac
 420
 aagaaggcgc tcatcaggca cttccacccc tcatgaccgc gcagactggg actgcgggtc
 480
 tgggtggggag cagcagacgt ccccttcaca ccgagaacca cggggggccc tccaagacct
 540
 ggcctccctt aaacctgaac ccccaaatc aggtcacgta gaatcaagaa ctgtttggga
 600
 tgaaatcacc atgtgggggc cccagcctcg ggccagttgt tgcagctcaa ggagaccgtc
 660
 cctggtgtca cctctgcctg gtcaccgcgc acctcatctg tgcagcgcgg tgcagccagc
 720
 ccttggtccc acgtgctgag gcacctccc cccacagtg cctgcagtt gccaggctct
 780
 ccagggcagg tcccagaggt tccccacaaa aaacaaataa agactccact ggaggaaaca
 840
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aa
 892

<210> 3968

<211> 151

<212> PRT

<213> Homo sapiens

<400> 3968

Xaa	Pro	Ala	Arg	Pro	Arg	Arg	Ala	Arg	Gly	Gly	Gly	Arg	Gly	Arg	Val
1				5					10					15	
Val	Ala	Arg	Gln	Ile	Leu	Pro	Arg	Gly	Arg	Gly	Arg	Leu	Val	Gly	Asp
			20					25					30		
Thr	Val	Val	Phe	Lys	Asp	Gly	Gln	Tyr	Trp	Ile	Arg	Gly	Arg	Thr	Ser
		35				40					45				
Val	Asp	Ile	Ile	Lys	Thr	Gly	Gly	Tyr	Lys	Val	Ser	Ala	Leu	Glu	Val
	50					55					60				
Glu	Trp	His	Leu	Leu	Ala	His	Pro	Ser	Ile	Thr	Asp	Val	Ala	Val	Ile
65					70				75					80	
Gly	Val	Pro	Asp	Met	Thr	Trp	Gly	Gln	Arg	Val	Thr	Ala	Val	Val	Thr
			85					90					95		
Leu	Arg	Glu	Gly	His	Ser	Leu	Ser	His	Arg	Glu	Leu	Lys	Glu	Trp	Ala
		100						105					110		
Arg	Asn	Val	Leu	Ala	Pro	Tyr	Ala	Val	Pro	Ser	Glu	Leu	Val	Leu	Val
		115					120					125			
Glu	Glu	Ile	Pro	Arg	Asn	Gln	Met	Gly	Lys	Ile	Asp	Lys	Lys	Ala	Leu
	130					135					140				
Ile	Arg	His	Phe	His	Pro	Ser									
145					150										

<210> 3969

<211> 915

<212> DNA

<213> Homo sapiens

<400> 3969

```

ggcacctcgg gcaggacctc cctggtcgga agtggccgtg agcccaagcc gcggtcccgg
60
gtgagtacgg ggcggggcgg aggcattgtg gaggtctctt gcctgtacgc tggaaagtgg
120
ggattgcaac tcggggaggg atggagcacg cgtcgtcgcc tgggaaacgg gtcgacccgc
180
ggaaggcgag cgggtgggac ttccggagca gttaatggtg gggaaacttt ctagtggatg
240
tgaggaggag cgggacttcc tgcagcaaat tggggctgtg cggcgtcaa gcccgtttac
300
ctgctcccca ggccggcacc caggatgggc gaggtggagg ccccgggccg cttgtggctc
360
gagagccccc ctgggggagc gccccccatc ttctgcctt cggacgggca agccctggtc
420
ctgggcaggg gaccctgac ccaggttacg gaccggaagt gctccagaac tcaagtggag
480
ctggtcgcag atcctgagac ccggacagtg gcagtgaac aggtatcagt gcctctgcaa
540
gggccagcaa ggcctgggga tgggatttgg ggaggaattg caagccgtca gtgaaggggt
600
acattaggaa aatctgattg gggccggcgg tgggtggctca agcctgtaat ccagcactt
660
tgaggaggccg aggcgggcgg atcgcttgaa cccaggagtt cgagaccagc ctgagcgaca
720
tggtgaaacc tgtctctcta aaaaattagc gggaatggtg gcgcgtcctt gtagttccta
780
atcgggaggg tgaagcggga ggatcccttg agcccagtag gtcaaggggtg tagtgagcag
840
tgatcaccac actgtacttc agcctgggtg acagagcgag aacctgtctc aaaaaaagaa
900
aagaaaaaat atggc
915

```

<210> 3970

<211> 89

<212> PRT

<213> Homo sapiens

<400> 3970

```

Met Gly Glu Val Glu Ala Pro Gly Arg Leu Trp Leu Glu Ser Pro Pro
1           5           10           15
Gly Gly Ala Pro Pro Ile Phe Leu Pro Ser Asp Gly Gln Ala Leu Val
20           25           30
Leu Gly Arg Gly Pro Leu Thr Gln Val Thr Asp Arg Lys Cys Ser Arg
35           40           45
Thr Gln Val Glu Leu Val Ala Asp Pro Glu Thr Arg Thr Val Ala Val
50           55           60
Lys Gln Val Ser Val Pro Leu Gln Gly Pro Ala Arg Pro Gly Asp Gly
65           70           75           80
Ile Trp Gly Gly Ile Ala Ser Arg Gln

```


85

<210> 3971

<211> 433

<212> DNA

<213> Homo sapiens

<400> 3971

acgcgtgact gatgatgttc tagcgggaga agacagaaga aagagagaga gaatatgaat
 60
 gacagatatg tggtattaag agctctggga aaaaaatgga gcatggaagg gagagcccgg
 120
 ctggggaacg ggtaatcaga gaaaccctca ctcatagggt ggtgcccttt atgcagagac
 180
 ttaaaggaag gagggagggt ccctgacaga gagaatggta agtgcaaagg tcctgggtgg
 240
 gcttgtgttg aggaagagca aggccagtgt ggctggaaca gagtgagtga aggggagaga
 300
 gttgtaagca atgagcttag acaggaaatg gggctctggtt cacatgggaa atggtaggac
 360
 attgtccgaa cttgggcttt tactccgggt gaaatgggca ctctataga tgctcccgtc
 420
 ctaatcacca gaa
 433

<210> 3972

<211> 120

<212> PRT

<213> Homo sapiens

<400> 3972

Met	Ser	Tyr	His	Phe	Pro	Cys	Glu	Pro	Asp	Pro	Ile	Ser	Cys	Leu	Ser
1				5					10					15	
Ser	Leu	Leu	Thr	Thr	Leu	Ser	Pro	Ser	Leu	Thr	Leu	Phe	Gln	Pro	His
			20					25					30		
Trp	Pro	Cys	Ser	Ser	Ser	Thr	Gln	Ala	His	Pro	Gly	Pro	Leu	His	Leu
		35					40					45			
Pro	Phe	Ser	Leu	Ser	Gly	Asp	Leu	Pro	Pro	Ser	Phe	Lys	Ser	Leu	His
	50					55					60				
Lys	Gly	His	His	Pro	Met	Ser	Glu	Gly	Phe	Ser	Asp	Tyr	Pro	Phe	Pro
65				70					75					80	
Ser	Arg	Ala	Leu	Pro	Ser	Met	Leu	His	Phe	Phe	Pro	Arg	Ala	Leu	Asn
			85						90					95	
Thr	Thr	Tyr	Leu	Ser	Phe	Ile	Phe	Ser	Leu	Ser	Phe	Phe	Cys	Leu	Leu
			100					105						110	
Pro	Leu	Glu	His	His	Gln	Ser	Arg								
		115				120									

<210> 3973

<211> 984

<212> DNA

<213> Homo sapiens

<400> 3973

ctaggtctta tccacgctga cctcaaacca gaaaacatca tgctggtgga tccatctaga
 60
 caaccataca gagtcaaggt catcgacttt gggtcagcca gccacgtgtc caaggctgtg
 120
 tgctccacct acttgcagtc cagatattac agggccctg agatcatcct tggtttacca
 180
 ttttgtgagg caattgacat gtggtccctg ggctgtgtta ttgcagaatt gttcctgggt
 240
 tggccgttat atccaggagc ttcggagtat gatcagattc ggtatatttc acaaacacag
 300
 ggtttgctg ctgaatattt attaagcgcc gggacaaaga caactagggtt tttcaaccgt
 360
 gacacggact caccatatcc tttgtggaga ctgaagacac cagatgacca tgaagcagag
 420
 acagggatta agtcaaaaga agcaagaaag tacattttca actgtttaga tgatatggcc
 480
 caggtgaaca tgacgacaga tttggaaggg agcgacatgt tggtagaaaa ggctgaccgg
 540
 cgggagttca ttgacctgtt gaagaagatg ctgaccattg atgctgacaa gagaatcact
 600
 ccaatcgaaa cctgaacca tccctttgtc accatgacac acttactcga ttttccccac
 660
 agcacacacg tcaaatcatg tttccagaac atggagatct gcaagcgtcg ggtgaatatg
 720
 tatgacacgg tgaaccagag caaaaccctt ttcacacgc acgtggcccc cagcacgtcc
 780
 accaacctga ccatgacctt taacaaccag ctgaccactg tccacaacca gccctcagcg
 840
 gcatccatgg ctgcagcggc ccagcggagc atgcccctgc agacaggaac agcccagatt
 900
 tgtgcccggc ctgaccggtt ccagcaagct ctcacgtgtg gtccccccgg cctgcaagcc
 960
 ttgcaggcct ctcccttcac gcgt
 984

<210> 3974

<211> 328

<212> PRT

<213> Homo sapiens

<400> 3974

Leu	Gly	Leu	Ile	His	Ala	Asp	Leu	Lys	Pro	Glu	Asn	Ile	Met	Leu	Val
1				5					10					15	
Asp	Pro	Ser	Arg	Gln	Pro	Tyr	Arg	Val	Lys	Val	Ile	Asp	Phe	Gly	Ser
			20					25					30		
Ala	Ser	His	Val	Ser	Lys	Ala	Val	Cys	Ser	Thr	Tyr	Leu	Gln	Ser	Arg
		35					40					45			
Tyr	Tyr	Arg	Ala	Pro	Glu	Ile	Ile	Leu	Gly	Leu	Pro	Phe	Cys	Glu	Ala
		50				55					60				
Ile	Asp	Met	Trp	Ser	Leu	Gly	Cys	Val	Ile	Ala	Glu	Leu	Phe	Leu	Gly
65				70					75					80	
Trp	Pro	Leu	Tyr	Pro	Gly	Ala	Ser	Glu	Tyr	Asp	Gln	Ile	Arg	Tyr	Ile
			85					90						95	
Ser	Gln	Thr	Gln	Gly	Leu	Pro	Ala	Glu	Tyr	Leu	Leu	Ser	Ala	Gly	Thr

gtccacgaaa gaaggcccca cacttctccc atccggcctc cacgtaaacg cgt
593

<210> 3976
<211> 101
<212> PRT
<213> Homo sapiens

<400> 3976
Met Gly Phe Ser Leu Leu Glu Gly Pro Ala Ser Leu Gln Pro Pro His
1 5 10 15
Arg Glu Ser Leu Pro Leu His Ser Leu Pro Arg Asp Gly Ser Trp Gly
20 25 30
Leu Lys Gly Ala Trp Ala Ser Ala Ser Leu Gln Ala Ala Ser Asn Ser
35 40 45
Gln Ser Gly Phe Gly Cys Pro Gln Cys Ser Pro Glu Ala Ala Ala Pro
50 55 60
His Pro Thr Ile Leu Leu Leu Arg Arg Leu Gly Ile Ile Gly Leu Pro
65 70 75 80
Trp Lys Gly Ser Ser Arg Arg Gly Leu Arg Glu Pro His Arg Cys Pro
85 90 95
Leu Ala Cys Gln Thr
100

<210> 3977
<211> 2668
<212> DNA
<213> Homo sapiens

<400> 3977
ccgcgactca gtctccgcag agcccgggag ggagtagctg ggggaccccg ttgagctgcc
60
gaacttccgg gactcccccg cgacccccctt cccagcttcc cgtecgctcc gccgcagcga
120
ttgtctcggg ggggttgattc ggcacaaacc gcccgaccca ggggcccgtg cgcgtgtgga
180
aggggaagca ctccctcgt ggtcgcctgg aggtgcgctg gaggaggggg tgacataacc
240
agggactcga ggtccgccgt gggaatgatc cacgaactgc tcttggtctt gagcgggtac
300
cctgggtcca ttttcacctg gaacaagcgg agtggcctgc aggtatcgca ggacttcctt
360
ttctccacc ccagtgcgac cagtgtcctg aatcgactct gccggctcgg cacagactat
420
attcgcttca ctgagttcat tgaacagtac acgggccatg tgcaacagca ggatcaccat
480
ccatctcaac agggccaagg tgggttacat ggaatctacc tgcgggcctt ctgcacaggg
540
ctggattctg ttttcagcc ttatcgccaa gcactgcttg atttgaaca agagttcctg
600
ggtgatcccc atctctccat atcacatgtc aactacttcc tagaccagtt ccagcttctt
660
tttcctctg tgatggttgt agtagaaca attaaaagtc aaaagattca tgggtgtcaa
720

atcctggaaa cagtctacaa acacagctgt ggggggttgc ctctgttcg aagtgcactg
780
gaaaaaatcc tggccgtttg tcatggggtc atgtataaac agctctcagc ctggatgctc
840
catggactcc tcttggacca gcatgaagaa ttctttatca aacaggggcc atcttctggt
900
aatgtcagtg cccagccaga agaggacgag gaggatctgg gcattggggg actgacagga
960
aaacaactga gagaactgca ggacttgctg ctgattgagg aagagaacat gctggcacca
1020
tctctgaagc agttttccct acgagtggag attttgccat cctacattcc agtgagggtt
1080
gctgaaaaaa tcctatttgt tggagaatct gtccagatgt ttgagaatca aaatgtgaac
1140
ctgactagaa aaggatccat tttgaaaaac caggaagaca cttttgctgc agagctgcac
1200
cgtctcaagc agcagccact cttcagcttg gtggactttg aacaggtggt ggatcgcat
1260
cgcagcactg tggctgagca tctctggaag ttgatggtag aagaatccga tttactgggt
1320
cagctgaaga tcattaaaga cttttacctt ctgggacgtg gagaactgtt tcaggccttc
1380
attgacacag ctcaacacat gttgaaaaca ccaccactg cagtaactga gcatgatgtg
1440
aatgtggcct ttcaacagtc agcacacaag gtattgctag atgatgacaa ctttctccct
1500
ctgttgact tgacaatcga gtatcacnng gaaaggagca caaagatgct actcaggnc
1560
agagaagggc cttctcgga aacttctccc cggaagccc ctgcatctgg ctgggcagcc
1620
ctaggtcttt cctacaaagt acagtggcca ctacatattc tcttcacccc agctgtcctg
1680
gaaaagtaca atgttgttt taagtactta ctgagtgtgc gccgggtgca agctgagctg
1740
cagcactgct gggccctaca aatgcagcgc aagcacctca agtcgaacca gactgatgca
1800
atcaagtggc gcctaagaaa tcacatggca tttttggtgg ataactttca gtactatctc
1860
caggtagatg tgttgagtc tcagttctcc cagctgcttc atcagatcaa ttctaccga
1920
gactttgaaa gcatccgatt ggctcatgac cacttcctga gcaatttgct ggctcaatcc
1980
tttatcctat tgaaacctgt gtttactgct ctgaatgaaa tcctagatct ctgtcacagt
2040
ttttgttcgc tggtcagtca gaacctaggc ccactggatg agcgtggagc cgcccagctg
2100
agcattctcg tgaagggtt tagccgccag tcttcaactc tgttcaagat tctctccagt
2160
gttcggaatc atcagatcaa ctgagatttg gctcaactac tgttacgact agattataac
2220
aaatactata cccaggctgg tggaaactctg ggagtttcg ggatgtgaaa atttctggct
2280
cataaattga aataacagcc acgttcccaa ggttgtaaca gaagattcaa aacatcccat
2340

tctagccaca cacaaataaa tatctgcggc ttagtgatag gactctacct tttctcctag
 2400
 aagcagttac tgaacatcca ggagtacaac tccttcccat cattcccatg tggaaggggc
 2460
 tctcccatca aggagaacat gtggcatctc tgatccttta cattgagaac atttggttga
 2520
 tatgttcatt tattcaatag tcatttattg agcacctact acgtaccttg gtactgttca
 2580
 agctgtggga gatacagcgg taaacaaaca atatagagca gaaagttaaa tattttatgg
 2640
 ttcatatgtg aaaaagtaat tatgttta
 2668

<210> 3978

<211> 667

<212> PRT

<213> Homo sapiens

<400> 3978

Met	Ile	His	Glu	Leu	Leu	Leu	Ala	Leu	Ser	Gly	Tyr	Pro	Gly	Ser	Ile
1				5					10					15	
Phe	Thr	Trp	Asn	Lys	Arg	Ser	Gly	Leu	Gln	Val	Ser	Gln	Asp	Phe	Pro
			20					25					30		
Phe	Leu	His	Pro	Ser	Glu	Thr	Ser	Val	Leu	Asn	Arg	Leu	Cys	Arg	Leu
		35					40					45			
Gly	Thr	Asp	Tyr	Ile	Arg	Phe	Thr	Glu	Phe	Ile	Glu	Gln	Tyr	Thr	Gly
	50					55					60				
His	Val	Gln	Gln	Gln	Asp	His	His	Pro	Ser	Gln	Gln	Gly	Gln	Gly	Gly
65					70					75				80	
Leu	His	Gly	Ile	Tyr	Leu	Arg	Ala	Phe	Cys	Thr	Gly	Leu	Asp	Ser	Val
			85						90					95	
Leu	Gln	Pro	Tyr	Arg	Gln	Ala	Leu	Leu	Asp	Leu	Glu	Gln	Glu	Phe	Leu
		100						105					110		
Gly	Asp	Pro	His	Leu	Ser	Ile	Ser	His	Val	Asn	Tyr	Phe	Leu	Asp	Gln
		115					120					125			
Phe	Gln	Leu	Leu	Phe	Pro	Ser	Val	Met	Val	Val	Val	Glu	Gln	Ile	Lys
	130					135					140				
Ser	Gln	Lys	Ile	His	Gly	Cys	Gln	Ile	Leu	Glu	Thr	Val	Tyr	Lys	His
145				150					155					160	
Ser	Cys	Gly	Gly	Leu	Pro	Pro	Val	Arg	Ser	Ala	Leu	Glu	Lys	Ile	Leu
			165						170					175	
Ala	Val	Cys	His	Gly	Val	Met	Tyr	Lys	Gln	Leu	Ser	Ala	Trp	Met	Leu
		180						185					190		
His	Gly	Leu	Leu	Leu	Asp	Gln	His	Glu	Glu	Phe	Phe	Ile	Lys	Gln	Gly
	195					200						205			
Pro	Ser	Ser	Gly	Asn	Val	Ser	Ala	Gln	Pro	Glu	Glu	Asp	Glu	Glu	Asp
	210					215						220			
Leu	Gly	Ile	Gly	Gly	Leu	Thr	Gly	Lys	Gln	Leu	Arg	Glu	Leu	Gln	Asp
225				230					235					240	
Leu	Arg	Leu	Ile	Glu	Glu	Asn	Met	Leu	Ala	Pro	Ser	Leu	Lys	Gln	
			245					250					255		
Phe	Ser	Leu	Arg	Val	Glu	Ile	Leu	Pro	Ser	Tyr	Ile	Pro	Val	Arg	Val
	260						265						270		
Ala	Glu	Lys	Ile	Leu	Phe	Val	Gly	Glu	Ser	Val	Gln	Met	Phe	Glu	Asn

```

      275      280      285
Gln Asn Val Asn Leu Thr Arg Lys Gly Ser Ile Leu Lys Asn Gln Glu
 290      295      300
Asp Thr Phe Ala Ala Glu Leu His Arg Leu Lys Gln Gln Pro Leu Phe
305      310      315      320
Ser Leu Val Asp Phe Glu Gln Val Val Asp Arg Ile Arg Ser Thr Val
      325      330      335
Ala Glu His Leu Trp Lys Leu Met Val Glu Glu Ser Asp Leu Leu Gly
      340      345      350
Gln Leu Lys Ile Ile Lys Asp Phe Tyr Leu Leu Gly Arg Gly Glu Leu
      355      360      365
Phe Gln Ala Phe Ile Asp Thr Ala Gln His Met Leu Lys Thr Pro Pro
      370      375      380
Thr Ala Val Thr Glu His Asp Val Asn Val Ala Phe Gln Gln Ser Ala
385      390      395      400
His Lys Val Leu Leu Asp Asp Asp Asn Leu Leu Pro Leu Leu His Leu
      405      410      415
Thr Ile Glu Tyr His Xaa Glu Arg Ser Thr Lys Met Leu Leu Arg Xaa
      420      425      430
Arg Glu Gly Pro Ser Arg Glu Thr Ser Pro Arg Glu Ala Pro Ala Ser
      435      440      445
Gly Trp Ala Ala Leu Gly Leu Ser Tyr Lys Val Gln Trp Pro Leu His
      450      455      460
Ile Leu Phe Thr Pro Ala Val Leu Glu Lys Tyr Asn Val Val Phe Lys
465      470      475      480
Tyr Leu Leu Ser Val Arg Arg Val Gln Ala Glu Leu Gln His Cys Trp
      485      490      495
Ala Leu Gln Met Gln Arg Lys His Leu Lys Ser Asn Gln Thr Asp Ala
      500      505      510
Ile Lys Trp Arg Leu Arg Asn His Met Ala Phe Leu Val Asp Asn Leu
      515      520      525
Gln Tyr Tyr Leu Gln Val Asp Val Leu Glu Ser Gln Phe Ser Gln Leu
      530      535      540
Leu His Gln Ile Asn Ser Thr Arg Asp Phe Glu Ser Ile Arg Leu Ala
545      550      555      560
His Asp His Phe Leu Ser Asn Leu Leu Ala Gln Ser Phe Ile Leu Leu
      565      570      575
Lys Pro Val Phe His Cys Leu Asn Glu Ile Leu Asp Leu Cys His Ser
      580      585      590
Phe Cys Ser Leu Val Ser Gln Asn Leu Gly Pro Leu Asp Glu Arg Gly
      595      600      605
Ala Ala Gln Leu Ser Ile Leu Val Lys Gly Phe Ser Arg Gln Ser Ser
      610      615      620
Leu Leu Phe Lys Ile Leu Ser Ser Val Arg Asn His Gln Ile Asn Ser
625      630      635      640
Asp Leu Ala Gln Leu Leu Leu Arg Leu Asp Tyr Asn Lys Tyr Tyr Thr
      645      650      655
Gln Ala Gly Gly Thr Leu Gly Ser Phe Gly Met
      660      665

```

<210> 3979

<211> 2746

<212> DNA

<213> Homo sapiens

<400> 3979

ccggcgctgc ttaccgctgt ggcggcaccg ggggtcccggg ggtgcgagca gcaggtggcg
60
caggcggtga cgagctgctc aggtgcgagt ggcgggggca caggggtggg cagggggccgg
120
gtcagagggtg tccgggtcag aggacgcgtg cgataatctg cgtgcattcg tcgataactg
180
tctatgcgaa gcaccgacgc agccatgagt acctgcgggg cttcactctg tgccacaacg
240
agcgaaccgc tgtacaggag ctcgactagc tgtcgcaccg tctgcacagg caccaccgaa
300
ggccatccct ggggaacaga atgcaaccgc ggatctagag agctgtcaca ttccaagaaa
360
tatttaaatt gtgctgattt tcttctggag aactgagccc agggaatgaa actctccatc
420
aagtcatggc tttgcgggca atagatcaga ggatattgcc agttttctaa tggattattg
480
ttatcgggca ggttttctct gaagcttctc agctgctggt acattctact tggatgggaa
540
ctggagatca gccagatcac ttgtatgcac aaagctgccg tggatctgtc tttcaaacaa
600
gagctgcaga aaacgtata gcaagggtga agctttatcc actctgactc acccagaaa
660
cacagccctg attctgcgtg agaaaggcta tctctacaga aactaaaacg gtatcaacgg
720
tttctgtaca gcacagatta tgacagcgtc tttcttaaga agagaatgtt taaatttcat
780
caaatagaaac atatttttga aatacttgat aaaatgagat gcctgagaaa acgttctaca
840
gtgtcattct tgggagttct tgtcattttt ctccctttta tgaacttgta cattgaagat
900
agctatgttc tggaaggaga caaacaactt ataagggaaa catccacaca tcaactgaat
960
tcagaacgct atgttcatac tttcaaggat ttatctaatt tctcaggagc cataaatgtc
1020
acctatcgct acctagctgc cacaccttta caaagaaagc ggtatcttac aattggactt
1080
tcttcagtaa agcgaaaaaa aggaaactat ttacttgaga caattaagtc aatttttgag
1140
caatccagct atgaagagct gaaggaaatt tcagtggtgg ttcacctagc agactttaat
1200
tcttcttggc gtgatgccat ggtccaggat attacacaga aatttgcgca ccatattatt
1260
gcaggaagat taatggttat acatgctcca gaggagtatt acccaatcct agatggcctt
1320
aaaagaaatt acaatgatcc agaagataga gtcaaatttc gttccaagca aaatgtagat
1380
tatgcttttc tgcttaattt ttgtgccaat acttcagact attatgtaat gcttgaagat
1440
gatgttcgat gttcaaaaaa tttcttaact gccatcaaga aagtcattgc atccctagaa
1500
ggaacttact gggtaactct tgaattctct aagcttggct acattggtaa actctatcat
1560

tctcatgac tcccacgttt ggcccatttt ttattaatgt tttatcaaga aatgccttgt
 1620
 gattggctat tgactcattt ccgtgggtctg ttggctcaga aaaatgtgat ccgtttttaa
 1680
 ccatctctct ttcagcacat gggtatttat tcatcatata aaggacgga gaataagctg
 1740
 aaggatgatg attttgaaga ggagtcattt gacattcctg ataaccccc tgcaagtctg
 1800
 tacaccaaca tgaatgtgtt tgaaaattat gaagcaagca aggtttacag tagtggtgat
 1860
 gagtactttt gggggaaacc accttcaaca ggagatgttt ttgtgattgt atttgaata
 1920
 ccaattataa taaaaaaaaa taaagtaaact actggaacag aagatcggca aaatgatatt
 1980
 ttgcatcatg gagccctaga tgttggggaa aacgttatgc ctacaaaca aaggagacaa
 2040
 tgttctagtt acttaagact aggagaattc aaaaatggaa actttgaaat gtcaggtgta
 2100
 aatcaaaaaa ttccatttga taccatttgt atgaggatat atgtcaccaa aacacaaaag
 2160
 gaatggctaa ttattaggag tattagcatt tggacttctt agccaattaa atcagtatgt
 2220
 tcagtttctg aagcagttct tctgtcttg tcttttgcta cctttgtctt ttggagggaa
 2280
 agcaatggat gggatatgtt aaaagaaaca ttaattacat tggcagtttt catttataca
 2340
 ttgttgacat aattttactc ttaatacaca cttgtattta ttttaacgtc tgaagttgaa
 2400
 tatcagtcta tagctaatac tactttcatt tatattttta aatgttctta gttttaaaat
 2460
 ttcaactgat tgtcgaaagg gtaatatgaa agatttttaa tgaaaaaaat ttgttgatg
 2520
 atgatttttg aaaaatagtc accaactgta tatacttctt caagaactga taattcatta
 2580
 tatcatcaga tagcttttat taagcatctg tgggaatata cagttgggtg gaatgataat
 2640
 ctgggttatt ttttctgtaa acttaagttt ccgttgactt ctgtacatct acaatgaata
 2700
 cctcctcata gaagtgggtg ctttacataa ttttttgtgt aggtga
 2746

<210> 3980

<211> 478

<212> PRT

<213> Homo sapiens

<400> 3980

Met	Phe	Lys	Phe	His	Gln	Met	Lys	His	Ile	Phe	Glu	Ile	Leu	Asp	Lys
1				5					10				15		
Met	Arg	Cys	Leu	Arg	Lys	Arg	Ser	Thr	Val	Ser	Phe	Leu	Gly	Val	Leu
			20					25				30			
Val	Ile	Phe	Leu	Leu	Phe	Met	Asn	Leu	Tyr	Ile	Glu	Asp	Ser	Tyr	Val
		35					40				45				
Leu	Glu	Gly	Asp	Lys	Gln	Leu	Ile	Arg	Glu	Thr	Ser	Thr	His	Gln	Leu

50	55	60
Asn Ser Glu Arg Tyr Val His Thr Phe Lys Asp Leu Ser Asn Phe Ser		
65	70	75
Gly Ala Ile Asn Val Thr Tyr Arg Tyr Leu Ala Ala Thr Pro Leu Gln		80
	85	90
Arg Lys Arg Tyr Leu Thr Ile Gly Leu Ser Ser Val Lys Arg Lys Lys		95
	100	105
Gly Asn Tyr Leu Leu Glu Thr Ile Lys Ser Ile Phe Glu Gln Ser Ser		110
	115	120
Tyr Glu Glu Leu Lys Glu Ile Ser Val Val Val His Leu Ala Asp Phe		125
	130	135
Asn Ser Ser Trp Arg Asp Ala Met Val Gln Asp Ile Thr Gln Lys Phe		140
145	150	155
Ala His His Ile Ile Ala Gly Arg Leu Met Val Ile His Ala Pro Glu		160
	165	170
Glu Tyr Tyr Pro Ile Leu Asp Gly Leu Lys Arg Asn Tyr Asn Asp Pro		175
	180	185
Glu Asp Arg Val Lys Phe Arg Ser Lys Gln Asn Val Asp Tyr Ala Phe		190
	195	200
Leu Leu Asn Phe Cys Ala Asn Thr Ser Asp Tyr Tyr Val Met Leu Glu		205
	210	215
Asp Asp Val Arg Cys Ser Lys Asn Phe Leu Thr Ala Ile Lys Lys Val		220
225	230	235
Ile Ala Ser Leu Glu Gly Thr Tyr Trp Val Thr Leu Glu Phe Ser Lys		240
	245	250
Leu Gly Tyr Ile Gly Lys Leu Tyr His Ser His Asp Leu Pro Arg Leu		255
	260	265
Ala His Phe Leu Leu Met Phe Tyr Gln Glu Met Pro Cys Asp Trp Leu		270
	275	280
Leu Thr His Phe Arg Gly Leu Leu Ala Gln Lys Asn Val Ile Arg Phe		285
	290	295
Lys Pro Ser Leu Phe Gln His Met Gly Tyr Tyr Ser Ser Tyr Lys Gly		300
305	310	315
Thr Glu Asn Lys Leu Lys Asp Asp Asp Phe Glu Glu Glu Ser Phe Asp		320
	325	330
Ile Pro Asp Asn Pro Pro Ala Ser Leu Tyr Thr Asn Met Asn Val Phe		335
	340	345
Glu Asn Tyr Glu Ala Ser Lys Ala Tyr Ser Ser Val Asp Glu Tyr Phe		350
	355	360
Trp Gly Lys Pro Pro Ser Thr Gly Asp Val Phe Val Ile Val Phe Glu		365
	370	375
Asn Pro Ile Ile Ile Lys Lys Ile Lys Val Asn Thr Gly Thr Glu Asp		380
385	390	395
Arg Gln Asn Asp Ile Leu His His Gly Ala Leu Asp Val Gly Glu Asn		400
	405	410
Val Met Pro Ser Lys Gln Arg Arg Gln Cys Ser Ser Tyr Leu Arg Leu		415
	420	425
Gly Glu Phe Lys Asn Gly Asn Phe Glu Met Ser Gly Val Asn Gln Lys		430
	435	440
Ile Pro Phe Asp Ile His Cys Met Arg Ile Tyr Val Thr Lys Thr Gln		445
	450	455
Lys Glu Trp Leu Ile Ile Arg Ser Ile Ser Ile Trp Thr Ser		460
465	470	475

<210> 3981
<211> 4447
<212> DNA
<213> Homo sapiens

<400> 3981
nngccggccg tgtccaagga ggacgggatg cggggcctgg cgggtcttcat ctccgatatc
60
cggaactgta agagcaaaga ggccgaaatt aagagaatca acaaggaaact ggccaacatc
120
cgctccaagt tcaaaggaga caaggctttg gatggctaca gtaagaaaaa atatgtgtgt
180
aaactgcttt tcatcttcct gcttggtcat gacattgact ttgggcacat ggaggctgtg
240
aatctgttga gttccaataa atacacagag aagcaaatag gttacctgtt catttctgtg
300
ctggtgaact cgaactcgga gctgatccgc ctgatcaaca acgccatcaa gaatgacctg
360
gccagccgca accccacctt catgggcctg gccctgcact gcacgcaccag cgtgggcagc
420
cgggagatgg ccgaggcctt cgccggggag atccctaagg tcctcgtagc cggagacact
480
atggacagcg tgaagcagag cgccggccctg tgcttgctgc gcctgtacag gacgtcccc
540
gatcttgtcc ccatgggcca ctggacatcc cgagtggctg acctgctcaa tgaccagcac
600
ttgggtgtgg taactgcagc cacaagtctg atcaccactt tagcacagaa gaaccagaa
660
gagtttaaaa cctccgtgtc tctggctgtc tctaggctaa gcagaatcgt gacgtctgca
720
tccacagatc tccaggatta cacttactat tttgtcccgg ctccctggct gtctgtcaaa
780
ctgctgagac tgctgcagtg ctaccacccc ccagaccctg cagtgcgagg ccgcctgact
840
gagtgcctgg agaccatcct gaacaaagcc caagaaccgc ccaagtcgaa gaaggtccag
900
cactccaacg cgaagaatgc cgtgcttttc gaggccatca gcttaatcat tcacatgac
960
agtgcgcca acctgctcgt ccgtgcctgc aaccagttag gccagtttct gcagcaccgc
1020
gagaccaacc tgcgctacct ggccctggag agcatgtgca cgctggccag ctccgagttc
1080
tcccatgaag ccgtcaagac gcacattgac accgtcatca atgccctcaa gacggagcgg
1140
gacgtcagcg tgcggcagcg ggccgctgac ctctctacg ccatgtgtga ccggagcaat
1200
gccaaagcaga tcgtgtcgga gatgctgagc tatctggaga cagctgacta ctccatccga
1260
gaagagattg tgctgaaggc cgccatcctg gctgagaagt acgcggtgga ctacacctgg
1320
tatgtggata ccatcttgaa cttgatccga attgctggtg attacgtgag tgaagaggtg
1380
tggtaccgag tcattcagat cgtcatcaac cgggacgacg tgcagggcta cgcgccaag
1440

accgtctttg aggtctcttca ggctcccgcg tgccacgaga acatgggtcaa agtggggcggc
1500
tacatccttg gggagttttg gaacctgatt gctggggacc cccgctccag ccccccagtg
1560
cagttctccc tgctccactc caagttccat ctgtgcagcg tggccaccgc cgcgctgctg
1620
ctgtccacct acatcaagtt cgtgaacctc ttcccggagg tgaagccac catccaggac
1680
gtgctgcgca gcgacagcca gctcaggaac gcagacgtgg agctgcagca gcgtgctgtg
1740
gagtacctgc ggctcagcac cgtggccagc accgacattc tggcgaccgt gctggaggag
1800
atgccccat tcccggagcg ggagtcctcc atcttggaac agctcaagaa gaagaagggc
1860
cccagcacgg tgacagacct ggaggacacc aagcgggaca ggagtgtgga cgtgaacggg
1920
ggctctgagc ctgccccagc cagtaccagc gccgtgtcta cgccttctcc gtcggcagac
1980
ctgctgggtc tcggggctgc cccccctgcc cccgcggggc cccacacctc ctccggcggc
2040
agcgggctgc tcgtggacgt gttctcagac tcggcctctg tggtcgcgcc tctcgtcct
2100
ggctccgaag acaactttgc caggtttgtt tgtaaaaaca atggtgtgtt gtttgaaaac
2160
cagctgcttc aaattggact taagtctgaa ttccggcaga atttaggtcg gatgtttatc
2220
ttttatggta ataagacctc cagcagttc ctaaacttta ccccaacact aatctgttca
2280
gacgaccttc agcctaacct gaacctgcag accaagcccg tggacccgac cgtggagggg
2340
ggcgcgcagg tgcagcaggt ggtcaacata gagtgcgtgt ccgacttcac ggaggcgcca
2400
gtcctcaaca ttcagttcag gtatgggggc acctccaga acgtgtctgt gcagctgcc
2460
atcactctca acaaattctt ccagccgaca gaaatggctt ctcaggattt ctttcaacgt
2520
tggaagcagt tgagcaatcc acagcaggaa gtgcagaaca tcttcaaagc aaagcaccca
2580
atggacacag aagtcaccaa agccaagatc attggatttg gttctgcact tcttgaagaa
2640
gttgatccta atcctgcgaa ttctgtggga gctggaatca tccacacgaa aaccaccag
2700
attggatgcc tgctgcgctt ggagccgaac ctgcaagccc agatgtaccg gctcacgctg
2760
cgcacaagta aggaagccgt ttctcagaga ttatgtgaat tgctctcagc gcagttttag
2820
tcctgaggat ggaagaccag gctcgtgtgt cttgtgttgt cttcgtctgt gccgtttgtc
2880
ttcgtggcta tcctgcagat gagcacctg tccagtgcc aagcacaagg cgcctccccg
2940
ccccaccgcc ccacacctc cccctttggg ctggacggga acacacgtgt gtggctcagg
3000
aggaaaagct cagcctggac tgtggcagcc acggcagaag gtggatcttg ggatcaattt
3060

ttataaaaaat cgagacagtt ctgtgggttaa atctacaaat taaagggaaa ttagaagttg
3120
gcgtgaacgt ggcgtttgtg ggagtgtcac tgagatggcc cgtgctgccg cccaccccgc
3180
ctcggagcct ctgggagcag cagtgccact gtgcatggcg tgggctgagc cttggtgtgt
3240
ggccgtcctg gtggctgcac acctggcgct gtcttgggcc cttgggagga gcacagctga
3300
ccctggtttt gctgcagtcc cagctggact gttttcccag gcaggatttt aatctagaat
3360
ttagaaacat ttgtatttgt aatgacttct ggcaaaagca cgtgtcctgg ccggatgtaa
3420
ctgttctcct tcccagctc ctgtttgtga agggcgctctg ttatgtcctc gcagtcgccg
3480
aggccttgga tgtgcagcca ggggaggagc gtcttgcggg ccccgagggg cccccaggac
3540
tccagggtaa agtgtgggcc ggtggcgcaa gactcagagg tgtgtctctc tctttcctgt
3600
cagagtgggc gtccccaggc cacggtgcag gcctgagtcc ttccaccggc ccggtccagt
3660
cgctccctgga ggggctgtgg aggaaggacg cctctgtgtg gtcaggaagt gaaggggcca
3720
ttggccgcat gccatgtgcc acctgcggct tgtgtctcac ctgtcatctg gactcagcac
3780
ccaggctgca cgtctgacac ctgagaggcg agagagtggg gccggcctag gagccaaggc
3840
tggggccttg cgtctgttcc ccaggatggg ggccttgttt gtcctaaaca cccccagcac
3900
agggttctggc ttcttgacat gctgtggagg cagggagggt ggggtggccac atgtgcttga
3960
gggtttttcac cctggccctc agttgcctgc tgtgcgggtc cctggggcag ctgcaggggc
4020
tcatggacct atcagggtct ccacagctcc cctgcagtgt gtgcacccca caatgtctgc
4080
ggctcttctt cggcgctgtc gggctttgat cacagcatag ccacgtcagt ggcgtgcgcc
4140
tctcgcacag gccattctgg gtctgggtgg gccagggtgc gtgacacgcc gtgctgggct
4200
tgtgtctgag ctgggtgggt tggccctcat tctcatgttc cagctgctgg gcagtgtctc
4260
gcctgtgtgc tgcgcctgca ggctgcgtgt gctgccgtgg atctcctgca tcccttgacc
4320
cctcccgcca tcagaggaaa ggctgtctcc cgaggcaccg ctccctgtg cggcgctgca
4380
gaggggccct cagtgtggca ctctctgtca aagaaaaata aaggctagaa ctgcaaaaaa
4440
aaaaaaa
4447

<210> 3982

<211> 929

<212> PRT

<213> Homo sapiens

<400> 3982

Arg Gly Leu Ala Val Phe Ile Ser Asp Ile Arg Asn Cys Lys Ser Lys
 1 5 10 15
 Glu Ala Glu Ile Lys Arg Ile Asn Lys Glu Leu Ala Asn Ile Arg Ser
 20 25 30
 Lys Phe Lys Gly Asp Lys Ala Leu Asp Gly Tyr Ser Lys Lys Lys Tyr
 35 40 45
 Val Cys Lys Leu Leu Phe Ile Phe Leu Leu Gly His Asp Ile Asp Phe
 50 55 60
 Gly His Met Glu Ala Val Asn Leu Leu Ser Ser Asn Lys Tyr Thr Glu
 65 70 75 80
 Lys Gln Ile Gly Tyr Leu Phe Ile Ser Val Leu Val Asn Ser Asn Ser
 85 90 95
 Glu Leu Ile Arg Leu Ile Asn Asn Ala Ile Lys Asn Asp Leu Ala Ser
 100 105 110
 Arg Asn Pro Thr Phe Met Gly Leu Ala Leu His Cys Ile Ala Ser Val
 115 120 125
 Gly Ser Arg Glu Met Ala Glu Ala Phe Ala Gly Glu Ile Pro Lys Val
 130 135 140
 Leu Val Ala Gly Asp Thr Met Asp Ser Val Lys Gln Ser Ala Ala Leu
 145 150 155 160
 Cys Leu Leu Arg Leu Tyr Arg Thr Ser Pro Asp Leu Val Pro Met Gly
 165 170 175
 Asp Trp Thr Ser Arg Val Val His Leu Leu Asn Asp Gln His Leu Gly
 180 185 190
 Val Val Thr Ala Ala Thr Ser Leu Ile Thr Thr Leu Ala Gln Lys Asn
 195 200 205
 Pro Glu Glu Phe Lys Thr Ser Val Ser Leu Ala Val Ser Arg Leu Ser
 210 215 220
 Arg Ile Val Thr Ser Ala Ser Thr Asp Leu Gln Asp Tyr Thr Tyr Tyr
 225 230 235 240
 Phe Val Pro Ala Pro Trp Leu Ser Val Lys Leu Leu Arg Leu Leu Gln
 245 250 255
 Cys Tyr Pro Pro Asp Pro Ala Val Arg Gly Arg Leu Thr Glu Cys
 260 265 270
 Leu Glu Thr Ile Leu Asn Lys Ala Gln Glu Pro Pro Lys Ser Lys Lys
 275 280 285
 Val Gln His Ser Asn Ala Lys Asn Ala Val Leu Phe Glu Ala Ile Ser
 290 295 300
 Leu Ile Ile His His Asp Ser Glu Pro Asn Leu Leu Val Arg Ala Cys
 305 310 315 320
 Asn Gln Leu Gly Gln Phe Leu Gln His Arg Glu Thr Asn Leu Arg Tyr
 325 330 335
 Leu Ala Leu Glu Ser Met Cys Thr Leu Ala Ser Ser Glu Phe Ser His
 340 345 350
 Glu Ala Val Lys Thr His Ile Asp Thr Val Ile Asn Ala Leu Lys Thr
 355 360 365
 Glu Arg Asp Val Ser Val Arg Gln Arg Ala Ala Asp Leu Leu Tyr Ala
 370 375 380
 Met Cys Asp Arg Ser Asn Ala Lys Gln Ile Val Ser Glu Met Leu Ser
 385 390 395 400
 Tyr Leu Glu Thr Ala Asp Tyr Ser Ile Arg Glu Glu Ile Val Leu Lys
 405 410 415
 Val Ala Ile Leu Ala Glu Lys Tyr Ala Val Asp Tyr Thr Trp Tyr Val

420							425					430				
Asp	Thr	Ile	Leu	Asn	Leu	Ile	Arg	Ile	Ala	Gly	Asp	Tyr	Val	Ser	Glu	
435							440					445				
Glu	Val	Trp	Tyr	Arg	Val	Ile	Gln	Ile	Val	Ile	Asn	Arg	Asp	Asp	Val	
450							455					460				
Gln	Gly	Tyr	Ala	Ala	Lys	Thr	Val	Phe	Glu	Ala	Leu	Gln	Ala	Pro	Ala	
465							470					475				
Cys	His	Glu	Asn	Met	Val	Lys	Val	Gly	Gly	Tyr	Ile	Leu	Gly	Glu	Phe	
485							490					495				
Gly	Asn	Leu	Ile	Ala	Gly	Asp	Pro	Arg	Ser	Ser	Pro	Pro	Val	Gln	Phe	
500							505					510				
Ser	Leu	Leu	His	Ser	Lys	Phe	His	Leu	Cys	Ser	Val	Ala	Thr	Arg	Ala	
515							520					525				
Leu	Leu	Leu	Ser	Thr	Tyr	Ile	Lys	Phe	Val	Asn	Leu	Phe	Pro	Glu	Val	
530							535					540				
Lys	Pro	Thr	Ile	Gln	Asp	Val	Leu	Arg	Ser	Asp	Ser	Gln	Leu	Arg	Asn	
545							550					555				
Ala	Asp	Val	Glu	Leu	Gln	Gln	Arg	Ala	Val	Glu	Tyr	Leu	Arg	Leu	Ser	
565							570					575				
Thr	Val	Ala	Ser	Thr	Asp	Ile	Leu	Ala	Thr	Val	Leu	Glu	Glu	Met	Pro	
580							585					590				
Pro	Phe	Pro	Glu	Arg	Glu	Ser	Ser	Ile	Leu	Ala	Lys	Leu	Lys	Lys	Lys	
595							600					605				
Lys	Gly	Pro	Ser	Thr	Val	Thr	Asp	Leu	Glu	Asp	Thr	Lys	Arg	Asp	Arg	
610							615					620				
Ser	Val	Asp	Val	Asn	Gly	Gly	Pro	Glu	Pro	Ala	Pro	Ala	Ser	Thr	Ser	
625							630					635				
Ala	Val	Ser	Thr	Pro	Ser	Pro	Ser	Ala	Asp	Leu	Leu	Gly	Leu	Gly	Ala	
645							650					655				
Ala	Pro	Pro	Ala	Pro	Ala	Gly	Pro	Pro	Pro	Ser	Ser	Gly	Gly	Ser	Gly	
660							665					670				
Leu	Leu	Val	Asp	Val	Phe	Ser	Asp	Ser	Ala	Ser	Val	Val	Ala	Pro	Leu	
675							680					685				
Ala	Pro	Gly	Ser	Glu	Asp	Asn	Phe	Ala	Arg	Phe	Val	Cys	Lys	Asn	Asn	
690							695					700				
Gly	Val	Leu	Phe	Glu	Asn	Gln	Leu	Leu	Gln	Ile	Gly	Leu	Lys	Ser	Glu	
705							710					715				
Phe	Arg	Gln	Asn	Leu	Gly	Arg	Met	Phe	Ile	Phe	Tyr	Gly	Asn	Lys	Thr	
725							730					735				
Ser	Thr	Gln	Phe	Leu	Asn	Phe	Thr	Pro	Thr	Leu	Ile	Cys	Ser	Asp	Asp	
740							745					750				
Leu	Gln	Pro	Asn	Leu	Asn	Leu	Gln	Thr	Lys	Pro	Val	Asp	Pro	Thr	Val	
755							760					765				
Glu	Gly	Gly	Ala	Gln	Val	Gln	Gln	Val	Val	Asn	Ile	Glu	Cys	Val	Ser	
770							775					780				
Asp	Phe	Thr	Glu	Ala	Pro	Val	Leu	Asn	Ile	Gln	Phe	Arg	Tyr	Gly	Gly	
785							790					795				
Thr	Phe	Gln	Asn	Val	Ser	Val	Gln	Leu	Pro	Ile	Thr	Leu	Asn	Lys	Phe	
805							810					815				
Phe	Gln	Pro	Thr	Glu	Met	Ala	Ser	Gln	Asp	Phe	Phe	Gln	Arg	Trp	Lys	
820							825					830				
Gln	Leu	Ser	Asn	Pro	Gln	Gln	Glu	Val	Gln	Asn	Ile	Phe	Lys	Ala	Lys	
835							840					845				
His	Pro	Met	Asp	Thr	Glu	Val	Thr	Lys	Ala	Lys	Ile	Ile	Gly	Phe	Glu	

850	855	860
Ser Ala Leu Leu Glu Glu Val Asp Pro Asn Pro Ala Asn Phe Val Gly		
865	870	875
Ala Gly Ile Ile His Thr Lys Thr Thr Gln Ile Gly Cys Leu Leu Arg		880
	885	890
Leu Glu Pro Asn Leu Gln Ala Gln Met Tyr Arg Leu Thr Leu Arg Thr		895
	900	905
Ser Lys Glu Ala Val Ser Gln Arg Leu Cys Glu Leu Leu Ser Ala Gln		910
	915	920
		925
Phe		

<210> 3983
 <211> 2300
 <212> DNA
 <213> Homo sapiens

<400> 3983
 nnccatgggg agatcacaga agagaggagc atcctgagcc ggcaacaggg agaccatgtg
 60
 gcacgcatcc tggagctaga ggatgacatc cagaccatca gtgagaaagt gctgacgaag
 120
 gaagtggagc tggacaggct tagagacaca gtgaaggccc tgactcggga acaagagaag
 180
 ctccctgggc aactgaaaga agtacaagca gacaaggagc aaagtgaggc tgagctccaa
 240
 gtggcacaac aggagaacca tcacttaaatt ttggacctga aggaggcgaa gagctggcaa
 300
 gaggagcaga gtgctcaggc tcagcgactg aaagacaagg tggcccagat gaaggacacc
 360
 ctaggccagg cccagcagcg ggtggccgag ctggagccct tgaaggagca gcttcgaggg
 420
 gccaggagc ttgcagcctc aagccagcag aaagccaccc ttcttgggga ggagttggcc
 480
 agcgagcag cagccaggga ccgcaccata gccgaactac accgcagccg cctggaagtg
 540
 gctgaagtta acggcaggct ggctgagctc ggtttgact tgaaggaaga aaaatgccaa
 600
 tggagcaagg agcgggagg gctgctgcag agtgaggagg cagagaagga caagatcctg
 660
 aagctgagtg cagagatact tcgattggag aaggcagttc aggaggagaa gacccaaaac
 720
 caagtgttca agactgagct ggcccgggag aaggattcta gcctggtaca gttgtcagaa
 780
 agtaagcggg agctgacaga gctgcgggtc gccctgcgtg tgctccagaa ggaaaaggag
 840
 cagttacagg aggagaaaca ggaattgcta gactacatga gaaagctaga ggcccgctg
 900
 gagaaggtgg cagatgagaa gtggaatgag gatgccacca cagaggatga ggaggccgct
 960
 gtggggctga gctgcccggc agctctgaca gactcagagg acgagtcctc agaagacatg
 1020
 aggtccccc cctatggcct ttgtgagcgt ggagaccag gtcctctctc tgctgggcct
 1080

cgagaggctt ctccccttgt tgtcatcagc cagccggctc ccatttctcc tcacctctct
 1140
 gggccagctg aggacagtag ctctgactcg gaggetgaag atgagaagtc agtcctgatg
 1200
 gcagctgtgc agagtggggg tgaggaggcc aacttactgc ttctgaact gggcagtgcc
 1260
 ttctatgaca tggccagtgg ctttacagtg ggtaccctgt cagaaaccag cactgggggc
 1320
 cctgccaccc ccacatggaa ggagtgtcct atctgtaagg agcgctttcc tgctgagagt
 1380
 gacaaggatg ccctggagga ccacatggat ggacacttct ttttcagcac ccaggacccc
 1440
 ttcacctttg agtgateccta ctccctcgta catgcacaaa tacacactca tgcacacaca
 1500
 cactcacaca catgcataca cttaggtttc atgcccattt tctatcacac tgggctccat
 1560
 gatattctgt tccctaagaa ctgcttctgt gtgccctgtt ttcattccaa gatttctcac
 1620
 ttcactctct cctacctggc tcttttgctc cagggagggg tcctgttcgg aagcagtggc
 1680
 tgaatttatc ccctgaaagt ggttttgag gaaccgggat ggaggaggcc ttcccctgtg
 1740
 ggaatagaat cgtccactcc tagccctggg tgcttctgat acacagccac tgcacacaca
 1800
 cactcacact cacactccct tgtctgatgc cccaaagcca attcctgggg caccctaccc
 1860
 tctcttattt ggagtttccg ttggtttacc tgagttttct ctgggggtctg cacagaggca
 1920
 gcagcatgga catcatggcc tctcaggctc cttttgggtc tcagtttcat tggttcctct
 1980
 ttctgttccc ccattgactt ctgtgcccc aacctagcctt ttccataacc ttaggtattc
 2040
 agtttgagg gggtttttgt atttttgagg attcctgtat tctgtatcct ctccctcgcat
 2100
 ctccctcatat ggaaagaaat aatgtatttg tgccttctgt gaggaatggg gggaacaagt
 2160
 ggtcccaggt atccccattt ccaaggcccc cctccctctc caggtcccc cacagcaata
 2220
 aaagcttccc cctgatatcc atccctttgt agtttgaaca aatatattta tatgatatgt
 2280
 aaaaaaaaaa aaaaaaaaaa
 2300

<210> 3984

<211> 484

<212> PRT

<213> Homo sapiens

<400> 3984

Xaa	His	Gly	Glu	Ile	Thr	Glu	Glu	Arg	Asp	Ile	Leu	Ser	Arg	Gln	Gln
1			5					10						15	
Gly	Asp	His	Val	Ala	Arg	Ile	Leu	Glu	Leu	Glu	Asp	Asp	Ile	Gln	Thr
		20					25						30		
Ile	Ser	Glu	Lys	Val	Leu	Thr	Lys	Glu	Val	Glu	Leu	Asp	Arg	Leu	Arg

	35							40						45					
Asp	Thr	Val	Lys	Ala	Leu	Thr	Arg	Glu	Gln	Glu	Lys	Leu	Leu	Gly	Gln				
	50					55					60								
Leu	Lys	Glu	Val	Gln	Ala	Asp	Lys	Glu	Gln	Ser	Glu	Ala	Glu	Leu	Gln				
65					70					75					80				
Val	Ala	Gln	Gln	Glu	Asn	His	His	Leu	Asn	Leu	Asp	Leu	Lys	Glu	Ala				
				85					90					95					
Lys	Ser	Trp	Gln	Glu	Glu	Gln	Ser	Ala	Gln	Ala	Gln	Arg	Leu	Lys	Asp				
			100					105					110						
Lys	Val	Ala	Gln	Met	Lys	Asp	Thr	Leu	Gly	Gln	Ala	Gln	Gln	Arg	Val				
	115						120					125							
Ala	Glu	Leu	Glu	Pro	Leu	Lys	Glu	Gln	Leu	Arg	Gly	Ala	Gln	Glu	Leu				
	130					135					140								
Ala	Ala	Ser	Ser	Gln	Gln	Lys	Ala	Thr	Leu	Leu	Gly	Glu	Glu	Leu	Ala				
145					150					155					160				
Ser	Ala	Ala	Ala	Ala	Arg	Asp	Arg	Thr	Ile	Ala	Glu	Leu	His	Arg	Ser				
				165					170					175					
Arg	Leu	Glu	Val	Ala	Glu	Val	Asn	Gly	Arg	Leu	Ala	Glu	Leu	Gly	Leu				
			180					185					190						
His	Leu	Lys	Glu	Glu	Lys	Cys	Gln	Trp	Ser	Lys	Glu	Arg	Ala	Gly	Leu				
	195						200					205							
Leu	Gln	Ser	Val	Glu	Ala	Glu	Lys	Asp	Lys	Ile	Leu	Lys	Leu	Ser	Ala				
	210					215				220									
Glu	Ile	Leu	Arg	Leu	Glu	Lys	Ala	Val	Gln	Glu	Lys	Thr	Gln	Asn					
225					230					235				240					
Gln	Val	Phe	Lys	Thr	Glu	Leu	Ala	Arg	Glu	Lys	Asp	Ser	Ser	Leu	Val				
			245						250					255					
Gln	Leu	Ser	Glu	Ser	Lys	Arg	Glu	Leu	Thr	Glu	Leu	Arg	Ser	Ala	Leu				
			260					265					270						
Arg	Val	Leu	Gln	Lys	Glu	Lys	Glu	Gln	Leu	Gln	Glu	Glu	Lys	Gln	Glu				
	275						280						285						
Leu	Leu	Glu	Tyr	Met	Arg	Lys	Leu	Glu	Ala	Arg	Leu	Glu	Lys	Val	Ala				
	290					295					300								
Asp	Glu	Lys	Trp	Asn	Glu	Asp	Ala	Thr	Thr	Glu	Asp	Glu	Glu	Ala	Ala				
305				310						315					320				
Val	Gly	Leu	Ser	Cys	Pro	Ala	Ala	Leu	Thr	Asp	Ser	Glu	Asp	Glu	Ser				
				325					330					335					
Pro	Glu	Asp	Met	Arg	Leu	Pro	Pro	Tyr	Gly	Leu	Cys	Glu	Arg	Gly	Asp				
			340					345					350						
Pro	Gly	Ser	Ser	Pro	Ala	Gly	Pro	Arg	Glu	Ala	Ser	Pro	Leu	Val	Val				
	355						360					365							
Ile	Ser	Gln	Pro	Ala	Pro	Ile	Ser	Pro	His	Leu	Ser	Gly	Pro	Ala	Glu				
	370					375						380							
Asp	Ser	Ser	Ser	Asp	Ser	Glu	Ala	Glu	Asp	Glu	Lys	Ser	Val	Leu	Met				
385					390					395									

465
Phe Thr Phe Glu

470

475

480

<210> 3985

<211> 523

<212> DNA

<213> Homo sapiens

<400> 3985

nnaaatttgt cttcgtgtag ttacaaaca cttctacaac tgcttggtc aggtactgac
60
gactgatgat gtcattcacc tggactttca acataaatac agacaaagat ctggtcgttt
120
aaaagcggca cctcccactc tctctctctc ggtccttctt tctctgtgtg atgagcctgc
180
tcctctttg ccttctacta tgactggaag ctccctgagg cctcctcaga agcagatgct
240
gctatatattc ctgtacagcc tggaaccgtc aaggtggagg ttgccccagg cacctctgtc
300
ctctcctcct cagcctcctc cagctgcttt tgctgttggt gttgttggtg ctgctgctgc
360
tgctgctgct gttggatgag gctgaggtcg gagcggtga gttccgctct ggcgcccgcg
420
gggaccagcc gcgctttcag cagccccacg gccaggccga gaagcagggt gcaggggaca
480
cgccggcaga gcctcgccat ggctagagc cagagggccg cgg
523

<210> 3986

<211> 110

<212> PRT

<213> Homo sapiens

<400> 3986

Ala	Cys	Ser	Leu	Phe	Ala	Phe	Tyr	Tyr	Asp	Trp	Lys	Leu	Pro	Glu	Ala
1				5					10					15	
Ser	Ser	Glu	Ala	Asp	Ala	Ala	Ile	Phe	Pro	Val	Gln	Pro	Gly	Thr	Val
		20					25					30			
Lys	Val	Glu	Val	Ala	Pro	Gly	Thr	Ser	Val	Leu	Ser	Ser	Ser	Ala	Ser
		35				40					45				
Ser	Ser	Cys	Phe	Cys	Cys	Cys	Cys	Cys	Cys	Cys	Cys	Cys	Cys	Cys	Cys
	50				55				60						
Cys	Cys	Trp	Met	Arg	Leu	Arg	Ser	Glu	Arg	Leu	Ser	Ser	Ala	Leu	Ala
65				70				75					80		
Ala	Ala	Gly	Thr	Ser	Arg	Ala	Phe	Ser	Ser	Pro	Thr	Ala	Arg	Pro	Arg
			85			90						95			
Ser	Arg	Val	Gln	Gly	Thr	Arg	Arg	Gln	Ser	Leu	Ala	Met	Ala		
		100				105						110			

<210> 3987

<211> 5954

<212> DNA

<213> Homo sapiens

<400> 3987

tatttagcagt aattgatttg cctgtatta ttttctgat gaataatcct ttacctcaag
60
cataattggt ttcagccaaa atctagacag tatagtagtt cagagatagt aataagaatt
120
cagaattagg ttgccaccac taaattcact ctacttttta taaaaaaacc tttaaaagat
180
atcttaggaa attaaaggggt ttttcttcc atttctttt ttctttcttt cttttaagtt
240
tttttcccc ctttaactga aatgtggaat aaacatattt gtaaatttta cttatttttag
300
gatggcagta taacacatca gatttctagg cctaactctc caaatttttg tccaggcttt
360
gtcaatgatt cacagcgtaa gcagtatgaa gagtggctcc aggagacca acagctgctt
420
caaatgcagc agaagtatct tgaagaacaa attggtgctc acagaaaatc taagaaggcc
480
ctttcagcta aacaacgtac tgccaagaaa gctgggcgtg aatttccaga ggaagatgca
540
gaacaactca agcatgttac tgaacagcaa agcatggttc agaaacagct agaacagatt
600
cgtaaacaac agaaagaaca tgctgaattg attgaagatt atcgatcaa acagcagcag
660
caatgtgcaa tggccccacc taccatgatg ccagtgctcc agccccagcc acccctaatt
720
ccaggtgcca ctccaccac catgagccaa cccaccttc ccatggtgcc acagcagctt
780
cagcaccagc agcacacaac agttatttct ggccatacta gccctgttag aatgcccagt
840
ttacctggat ggcaacccaa cagtgtcct gccacctgc ccctcaatcc tcctagaatt
900
cagcccccaa ttgccagtt accaataaaa acttgtacac cagccccagg gacagtctca
960
aatgcaaatc cacagagtgg accaccacct cgggtagaat ttgatgacaa caatcccttt
1020
agtgaaagtt ttcaagaacg ggaacgtaag gaacgtttac gagaacagca agagagacaa
1080
cggatccaac tcatgcagga ggtagataga caaagagctt tgcagcagag gatggaaatg
1140
gagcagcatg gtatggtggg ctctgagata agtagtagta ggacatctgt gtcccagatt
1200
cccttctaca gttccgactt acctgtgat tttatgcaac ctctaggacc ccttcagcag
1260
tctccacaac accaacagca aatggggcag gttttacagc agcagaatat acaacaagga
1320
tcaattaatt caccctccac ccaaactttc atgcagacta atgagcgaag gcaggtaggc
1380
cctccttcat ttgttctga ttcaccatca atccctgttg gaagcccaa ttttcttct
1440
gtgaagcagg gacatggaaa tcttcttggg accagcttcc agcagtcctc agtgaggcct
1500
tcttttacac ctgctttacc agcagcacct ccagtagcta atagcagtct cccatgtggc
1560

caagattcta ctataaccca tggacacagt tatccgggat caaccaatc gctcattcag
1620
ttgtattctg atataatccc agaggaaaaa aaaaaaaaaa aaagaacaag aaagaagaaa
1680
agagatgatg atgcagaatc caccaaggct ccatcaactc cccattcaga tataactgcc
1740
ccaccgactc caggcatctc agaaactacc tctactcctg cagtgcac acccagtgc
1800
cttcctcaac aagccgacca agagtcggtg gaaccagtcg gcccatccac tccaatatg
1860
gcagcaggcc agctatgtac agaattagag acaaaactgc ccaatagtga tttctcacia
1920
gcaactccaa atcaacagac gtatgcaaat tcagaagtag acaagctctc catggaaacc
1980
cctgccaaaa cagaagagat aaaactggaa aaggctgaga cagagtcctg cccaggccaa
2040
gaggagccta aattggagga acagaatggt agtaaggtag aaggaaacgc ttagcctgt
2100
cctgtctcct cagcacagag tcctcccat tctgctggg cccctgctgc caaaggagac
2160
tcagggaatg aacttctgaa acacttggtg aaaaataaaa agtcattctc tcttttgaat
2220
caaaaacctg agggcagtat ttgttcagaa gatgactgta caaaggataa taaactagtt
2280
gagaagcaga acccagctga aggactgcaa actttggggg ctcaaagca aggtggtttt
2340
ggatgtggca accagttgcc aaaaacagat ggaggaagtg aaaccaagaa acagcgaagc
2400
aaacggactc agaggacggg tgagaaagca gcacctcgt caaagaaaag gaaaaaggac
2460
gaagaggaga aacaagctat gtactctagc actgacacgt ttaccactt gaaacagggtg
2520
aggcagctct ctctgctccc tctaattgaa ccaatcattg gagtgaactt tgcgcacttt
2580
cttccttatg gcagtggcca atttaatagt gggaatcgac ttctaggaac ttttggcagt
2640
gctaccctgg aaggggtttc ggactactat tctcagttga tctacaagca gaataattta
2700
agtaatctc caacaccccc tgctctctt cctcctacac cacctcctat ggcttgtcag
2760
aagatggcca atggttttgc aacaactgaa gaacttgctg gaaaagccgg agtggttagtg
2820
agccatgaag ttaccaaacc tctaggacct aaaccatttc agctgccctt cagaccccag
2880
gacgaattgt tggcccgagc tcttgctcag ggcccaaga cagttgatgt gccagcctcc
2940
ctccaacac cacctcataa caatcaggaa gaattaagga tacaggatca ctgtggtgat
3000
cgagatactc ctgacagttt tgttcctca tcctctcctg agagtgtggt tggggtagaa
3060
gtgagcaggt atccagatct gtcattggtc aaggaggagc ctccagaacc ggtgccgtcc
3120
cccatcttc caattcttcc tagcactgct gggaaaagt cagaatcaag aaggaatgac
3180

atcaaaactg agccaggcac tttatatattt gcgtcacctt ttggtccttc cccaaatggt
3240
cccagatcag gtcttatatc tgtagcaatt actctgcac ctagagctgc tgagaacatt
3300
agcagtgttg tggctgcatt ttccgacctt cttcacgtcc gaatccctaa cagctatgag
3360
gttagcagtg ctccagatgt cccatccatg ggtttggtca gtagccacag aatcaaccg
3420
ggtttgagtg atcgacagca tttacttctc cgtgggcctc cgccaggatc tgcaaacct
3480
cccagattag tgagctctta ccggctgaag cagcctaattg taccatttcc tccaacaagc
3540
aatggctctt ctggatataa ggattctagt catggtattg cagaaagcgc agcactcaga
3600
ccacagtggg gttgtcattg taaagtgggt attcttggaa gtggtgtgcg gaaatcttct
3660
aaagatctga cccttttgaa caaggattcc cgagaaagca ccaagagggg agagaaggac
3720
attgtcttct gtagtaataa ctgctttatt ctttattcat caactgcaca agcgaaaaac
3780
tcagaaaaca aggaatccat tccttcattg ccacaatcac ctatgagaga aacgccttcc
3840
aaagcatttc atcagtacag caacaacatc tccactttgg atgtgcactg tctccccag
3900
ctccagaga aagcttctcc ccctgcctca ccacccatcg ccttccctcc tgcttttgaa
3960
gcagcccaag tcgaggccaa gccagatgag ctgaagggtga cagtcaagct gaagcctcgg
4020
ctaagagctg tccatgggtg gtttgaagat tgcaggccgc tcaataaaaa atggagagga
4080
atgaaatgga agaagtggag cattcatatt gtaatcccta aggggacatt taaaccacct
4140
tgtgaggatg aaatagatga atttctaaag aaattgggca cttcccttaa acctgatcct
4200
gtgcccaag actatcgga atgttgcttt tgtcatgaag aaggatgatg attgacagat
4260
ggaccagcaa ggctactcaa ccttgacttg gatctgtggg tccacttgaa ctgcgctctg
4320
tgggtccacg aggtctatga gactcaggct ggtgccttaa taaatgtgga gctagctctg
4380
aggagaggcc tacaaatgaa atgtgtcttc tgtcacaaga cgggtgccac tagtggatgc
4440
cacagatttc gatgcaccaa catttatcac ttcacttgcg ccattaaagc acaatgcatg
4500
ttttttaagg acaaaactat gctttgcccc atgcacaaac caaagggaat tcatgagcaa
4560
gaattaagtt actttgcagt cttcaggagg gtctatgttc agcgtgatga ggtgagacag
4620
attgctagca tcgtgcaacg aggagaacgg gaccatacct ttcgcgtggg tagcctcatc
4680
ttccacacaa ttggtcagct gcttccacag cagatgcaag cattccattc tcctaaagca
4740
ctcttccctg tgggctatga agccagccgg ctgtactgga gcaactcgcta tgccaatagg
4800

cgctgccgct acctgtgctc cattgaggag aaggatgggc gccagtggtt tgtcatcagg
 4860
 attgtggaac aaggccatga agacctgggt ctaagtgaca tctcacctaa aggtgtctgg
 4920
 gataagattt tggagcctgt ggcatgtgtg agaaaaaagt ctgaaatgct ccagcttttc
 4980
 ccagcgtatt taaaaggaga ggatctgttt ggctgaccg tctctgcagt ggcacgcata
 5040
 gcggaatcac ttcttggggt tgaggcatgt gaaaattata ccttccgata cggccgaaat
 5100
 cctctcatgg aacttctctt tgccgttaac cccacagggt gtgcccgttc tgaacctaaa
 5160
 atgagtggcc atgtcaagag gtttgtgtta aggcctcaca ccttaaacag caccagcacc
 5220
 tcaaatgcat ttcagagcac agtcactgga gaactgaacg caccttatag taaacagttt
 5280
 gttcactcca agtcacgca gtaccggaag atgaaaactg aatggaaatc caatgtgtat
 5340
 ctggcacggc ctcggattca ggggctgggc ctgtatgctg ctcgagacat tgagaaacac
 5400
 accatgggtca ttgagtacat cgggactatc attcgaaacg aagtagccaa caggaaagag
 5460
 aagcttttat agtctcagaa ccgtgggtgtg tacatgttcc gcatggataa cgaccatgtg
 5520
 attgacgcca cgctcacagg agggcccgca aggtatatca accattcgtg tgcacctaat
 5580
 tgtgtggctg aagtgggtgac ttttgagaga ggacacaaaa ttatcatcag ctccagtcgg
 5640
 agaatccaga aaggagaaga gctctgctat gactataagt ttgactttga agatgaccag
 5700
 cacaagattc cgtgtcactg tggagctgtg aactgccgga agtggatgaa ctgaaatgca
 5760
 ttcccttgcta gctcagcggg cggcttgtcc ctaggaagag gcgattcaac acaccattgg
 5820
 aattttgcag acagaaagag atttttgttt tctgttttat gactttttga aaaagcttct
 5880
 gggagtctct atttctcag tccttttaggt taaagcagcg ccaggaggaa gctgacagaa
 5940
 gcagcgttcc tgaa
 5954

<210> 3988

<211> 1817

<212> PRT

<213> Homo sapiens

<400> 3988

Asp	Gly	Ser	Ile	Thr	His	Gln	Ile	Ser	Arg	Pro	Asn	Pro	Pro	Asn	Phe
1				5					10					15	
Gly	Pro	Gly	Phe	Val	Asn	Asp	Ser	Gln	Arg	Lys	Gln	Tyr	Glu	Glu	Trp
		20					25					30			
Leu	Gln	Glu	Thr	Gln	Gln	Leu	Leu	Gln	Met	Gln	Gln	Lys	Tyr	Leu	Glu
		35				40						45			
Glu	Gln	Ile	Gly	Ala	His	Arg	Lys	Ser	Lys	Lys	Ala	Leu	Ser	Ala	Lys

50	55	60
Gln Arg Thr Ala Lys	Lys Ala Gly Arg Glu Phe Pro Glu Glu Asp Ala	
65	70	75
Glu Gln Leu Lys His Val Thr Glu Gln Gln Ser Met Val Gln Lys Gln		80
	85	90
Leu Glu Gln Ile Arg Lys Gln Gln Lys Glu His Ala Glu Leu Ile Glu		95
	100	105
Asp Tyr Arg Ile Lys Gln Gln Gln Gln Cys Ala Met Ala Pro Pro Thr		110
	115	120
Met Met Pro Ser Val Gln Pro Gln Pro Pro Leu Ile Pro Gly Ala Thr		125
	130	135
Pro Pro Thr Met Ser Gln Pro Thr Phe Pro Met Val Pro Gln Gln Leu		140
	145	150
Gln His Gln Gln His Thr Thr Val Ile Ser Gly His Thr Ser Pro Val		155
	165	170
Arg Met Pro Ser Leu Pro Gly Trp Gln Pro Asn Ser Ala Pro Ala His		175
	180	185
Leu Pro Leu Asn Pro Pro Arg Ile Gln Pro Pro Ile Ala Gln Leu Pro		190
	195	200
Ile Lys Thr Cys Thr Pro Ala Pro Gly Thr Val Ser Asn Ala Asn Pro		205
	210	215
Gln Ser Gly Pro Pro Pro Arg Val Glu Phe Asp Asp Asn Asn Pro Phe		220
	225	230
Ser Glu Ser Phe Gln Glu Arg Glu Arg Lys Glu Arg Leu Arg Glu Gln		235
	245	250
Gln Glu Arg Gln Arg Ile Gln Leu Met Gln Glu Val Asp Arg Gln Arg		255
	260	265
Ala Leu Gln Gln Arg Met Glu Met Glu Gln His Gly Met Val Gly Ser		270
	275	280
Glu Ile Ser Ser Ser Arg Thr Ser Val Ser Gln Ile Pro Phe Tyr Ser		285
	290	295
Ser Asp Leu Pro Cys Asp Phe Met Gln Pro Leu Gly Pro Leu Gln Gln		300
	305	310
Ser Pro Gln His Gln Gln Gln Met Gly Gln Val Leu Gln Gln Gln Asn		315
	325	330
Ile Gln Gln Gly Ser Ile Asn Ser Pro Ser Thr Gln Thr Phe Met Gln		335
	340	345
Thr Asn Glu Arg Arg Gln Val Gly Pro Pro Ser Phe Val Pro Asp Ser		350
	355	360
Pro Ser Ile Pro Val Gly Ser Pro Asn Phe Ser Ser Val Lys Gln Gly		365
	370	375
His Gly Asn Leu Ser Gly Thr Ser Phe Gln Gln Ser Pro Val Arg Pro		380
	385	390
Ser Phe Thr Pro Ala Leu Pro Ala Ala Pro Pro Val Ala Asn Ser Ser		395
	405	410
Leu Pro Cys Gly Gln Asp Ser Thr Ile Thr His Gly His Ser Tyr Pro		415
	420	425
Gly Ser Thr Gln Ser Leu Ile Gln Leu Tyr Ser Asp Ile Ile Pro Glu		430
	435	440
Glu Lys Lys Lys Lys Lys Arg Thr Arg Lys Lys Lys Arg Asp Asp Asp		445
	450	455
Ala Glu Ser Thr Lys Ala Pro Ser Thr Pro His Ser Asp Ile Thr Ala		460
	465	470
Pro Pro Thr Pro Gly Ile Ser Glu Thr Thr Ser Thr Pro Ala Val Ser		475
		480

3156

```

          915              920              925
Leu Val Lys Glu Glu Pro Pro Glu Pro Val Pro Ser Pro Ile Ile Pro
  930              935              940
Ile Leu Pro Ser Thr Ala Gly Lys Ser Ser Glu Ser Arg Arg Asn Asp
  945              950              955              960
Ile Lys Thr Glu Pro Gly Thr Leu Tyr Phe Ala Ser Pro Phe Gly Pro
          965              970              975
Ser Pro Asn Gly Pro Arg Ser Gly Leu Ile Ser Val Ala Ile Thr Leu
          980              985              990
His Pro Thr Ala Ala Glu Asn Ile Ser Ser Val Val Ala Ala Phe Ser
          995              1000              1005
Asp Leu Leu His Val Arg Ile Pro Asn Ser Tyr Glu Val Ser Ser Ala
  1010              1015              1020
Pro Asp Val Pro Ser Met Gly Leu Val Ser Ser His Arg Ile Asn Pro
  1025              1030              1035              1040
Gly Leu Glu Tyr Arg Gln His Leu Leu Leu Arg Gly Pro Pro Pro Gly
          1045              1050              1055
Ser Ala Asn Pro Pro Arg Leu Val Ser Ser Tyr Arg Leu Lys Gln Pro
          1060              1065              1070
Asn Val Pro Phe Pro Pro Thr Ser Asn Gly Leu Ser Gly Tyr Lys Asp
          1075              1080              1085
Ser Ser His Gly Ile Ala Glu Ser Ala Ala Leu Arg Pro Gln Trp Cys
  1090              1095              1100
Cys His Cys Lys Val Val Ile Leu Gly Ser Gly Val Arg Lys Ser Phe
  1105              1110              1115              1120
Lys Asp Leu Thr Leu Leu Asn Lys Asp Ser Arg Glu Ser Thr Lys Arg
          1125              1130              1135
Val Glu Lys Asp Ile Val Phe Cys Ser Asn Asn Cys Phe Ile Leu Tyr
          1140              1145              1150
Ser Ser Thr Ala Gln Ala Lys Asn Ser Glu Asn Lys Glu Ser Ile Pro
  1155              1160              1165
Ser Leu Pro Gln Ser Pro Met Arg Glu Thr Pro Ser Lys Ala Phe His
  1170              1175              1180
Gln Tyr Ser Asn Asn Ile Ser Thr Leu Asp Val His Cys Leu Pro Gln
  1185              1190              1195              1200
Leu Pro Glu Lys Ala Ser Pro Pro Ala Ser Pro Pro Ile Ala Phe Pro
          1205              1210              1215
Pro Ala Phe Glu Ala Ala Gln Val Glu Ala Lys Pro Asp Glu Leu Lys
          1220              1225              1230
Val Thr Val Lys Leu Lys Pro Arg Leu Arg Ala Val His Gly Gly Phe
  1235              1240              1245
Glu Asp Cys Arg Pro Leu Asn Lys Lys Trp Arg Gly Met Lys Trp Lys
  1250              1255              1260
Lys Trp Ser Ile His Ile Val Ile Pro Lys Gly Thr Phe Lys Pro Pro
  1265              1270              1275              1280
Cys Glu Asp Glu Ile Asp Glu Phe Leu Lys Lys Leu Gly Thr Ser Leu
          1285              1290              1295
Lys Pro Asp Pro Val Pro Lys Asp Tyr Arg Lys Cys Cys Phe Cys His
  1300              1305              1310
Glu Glu Gly Asp Gly Leu Thr Asp Gly Pro Ala Arg Leu Leu Asn Leu
  1315              1320              1325
Asp Leu Asp Leu Trp Val His Leu Asn Cys Ala Leu Trp Ser Thr Glu
  1330              1335              1340
Val Tyr Glu Thr Gln Ala Gly Ala Leu Ile Asn Val Glu Leu Ala Leu

```

1345 1350 1355 1360
 Arg Arg Gly Leu Gln Met Lys Cys Val Phe Cys His Lys Thr Gly Ala
 1365 1370 1375
 Thr Ser Gly Cys His Arg Phe Arg Cys Thr Asn Ile Tyr His Phe Thr
 1380 1385 1390
 Cys Ala Ile Lys Ala Gln Cys Met Phe Phe Lys Asp Lys Thr Met Leu
 1395 1400 1405
 Cys Pro Met His Lys Pro Lys Gly Ile His Glu Gln Glu Leu Ser Tyr
 1410 1415 1420
 Phe Ala Val Phe Arg Arg Val Tyr Val Gln Arg Asp Glu Val Arg Gln
 1425 1430 1435 1440
 Ile Ala Ser Ile Val Gln Arg Gly Glu Arg Asp His Thr Phe Arg Val
 1445 1450 1455
 Gly Ser Leu Ile Phe His Thr Ile Gly Gln Leu Leu Pro Gln Gln Met
 1460 1465 1470
 Gln Ala Phe His Ser Pro Lys Ala Leu Phe Pro Val Gly Tyr Glu Ala
 1475 1480 1485
 Ser Arg Leu Tyr Trp Ser Thr Arg Tyr Ala Asn Arg Arg Cys Arg Tyr
 1490 1495 1500
 Leu Cys Ser Ile Glu Glu Lys Asp Gly Arg Pro Val Phe Val Ile Arg
 1505 1510 1515 1520
 Ile Val Glu Gln Gly His Glu Asp Leu Val Leu Ser Asp Ile Ser Pro
 1525 1530 1535
 Lys Gly Val Trp Asp Lys Ile Leu Glu Pro Val Ala Cys Val Arg Lys
 1540 1545 1550
 Lys Ser Glu Met Leu Gln Leu Phe Pro Ala Tyr Leu Lys Gly Glu Asp
 1555 1560 1565
 Leu Phe Gly Leu Thr Val Ser Ala Val Ala Arg Ile Ala Glu Ser Leu
 1570 1575 1580
 Pro Gly Val Glu Ala Cys Glu Asn Tyr Thr Phe Arg Tyr Gly Arg Asn
 1585 1590 1595 1600
 Pro Leu Met Glu Leu Pro Leu Ala Val Asn Pro Thr Gly Cys Ala Arg
 1605 1610 1615
 Ser Glu Pro Lys Met Ser Ala His Val Lys Arg Phe Val Leu Arg Pro
 1620 1625 1630
 His Thr Leu Asn Ser Thr Ser Thr Ser Lys Ser Phe Gln Ser Thr Val
 1635 1640 1645
 Thr Gly Glu Leu Asn Ala Pro Tyr Ser Lys Gln Phe Val His Ser Lys
 1650 1655 1660
 Ser Ser Gln Tyr Arg Lys Met Lys Thr Glu Trp Lys Ser Asn Val Tyr
 1665 1670 1675 1680
 Leu Ala Arg Ser Arg Ile Gln Gly Leu Gly Leu Tyr Ala Ala Arg Asp
 1685 1690 1695
 Ile Glu Lys His Thr Met Val Ile Glu Tyr Ile Gly Thr Ile Ile Arg
 1700 1705 1710
 Asn Glu Val Ala Asn Arg Lys Glu Lys Leu Tyr Glu Ser Gln Asn Arg
 1715 1720 1725
 Gly Val Tyr Met Phe Arg Met Asp Asn Asp His Val Ile Asp Ala Thr
 1730 1735 1740
 Leu Thr Gly Gly Pro Ala Arg Tyr Ile Asn His Ser Cys Ala Pro Asn
 1745 1750 1755 1760
 Cys Val Ala Glu Val Val Thr Phe Glu Arg Gly His Lys Ile Ile Ile
 1765 1770 1775
 Ser Ser Ser Arg Arg Ile Gln Lys Gly Glu Glu Leu Cys Tyr Asp Tyr

1780 1785 1790
 Lys Phe Asp Phe Glu Asp Asp Gln His Lys Ile Pro Cys His Cys Gly
 1795 1800 1805
 Ala Val Asn Cys Arg Lys Trp Met Asn
 1810 1815

<210> 3989
 <211> 4522
 <212> DNA
 <213> Homo sapiens

<400> 3989
 nnggcacgag cgagggttcgg gctggttggt ccgttgcgag ctgcagctgc gatctctgtg
 60
 gtaggcccag aagtgtatgc tgacttgtaa agtgaagaag ccagtgggtgc tgcgggtgtt
 120
 cttttggggg agtgtctggg atccagtacg agtgaatca ttgttcaa atagggtgta
 180
 tgaaaagtga tcctctcttc agagatgtca aaaacaaaca aatccaagtc tggatctcgc
 240
 tcttctcgc caagatctgc atcaagatct cgttctcgtt cattttcgaa gtctcgggtc
 300
 cgaagccgat ctctctctcg ttcaaggaag cgcaggctga gttctaggtc tcgttccaga
 360
 tcatattctc cagctcataa cagagaaaga aaccacccaa gagtatatca gaatcgggat
 420
 ttccgaggtc acaacagagg ctatagaagg ccctattatt tccgtgggcg taacagaggc
 480
 ttttatccat ggggccaata taaccgagga ggctatggaa actaccgctc aaattggcag
 540
 aattaccggc aagcatacag tcctcgtcga ggccgttcaa gatcccggtc cccaaagaga
 600
 aggtccccctt caccaaggtc caggagccat tctagaaact ctgataagtc gtcttctgac
 660
 cgggtcaaggc gtcctcatc ctcccggttct tcctccaacc atagccgagt tgaatcttct
 720
 aagcgcaagt ctgcaaagga gaaaaagtcc tcttctaagg atagccggcc atctcaggct
 780
 gccggggata accagggaga tgagggtcaag gagcagacat tctctggagg cacctctcaa
 840
 gatacaaaaag catctgagag ctggaagcca tggccagatg ccacctacgg cactggttct
 900
 gcatcacggg cctcagcagt ttctgagctg agtcctcggg agcgaagccc agctctcaaa
 960
 agccccctcc agtctgtggt ggtgaggcgg cggtcacccc gtcctagccc cgtgcaaaaa
 1020
 cctagtctc cactttccag cacatcccag atggggtcaa ctctgccgag tgggtgccgg
 1080
 tatcagtctg ggacacacca aggtcagttc gaccatggtt ctgggtccct gaggccatcc
 1140
 aaaaagagcc ctgtgggttaa gaggccacca tccactggct ccacatatgg ctcatctcag
 1200
 aaggaggaga gtgctgcttc aggaggagca gcctatacaa agaggatatct agaagagcag
 1260

aagacagaga atggaaaaga taaggaaacag aaacaaacaa ataccgataa agaaaaaata
1320
aaagagaaaag ggagctttctc tgacacaggc ttgggtgatg gaaaaatgaa atctgattct
1380
tttgctccca aaactgattc tgagaagcct tttcggggca gtcagtctcc caaaaggtat
1440
aagctccgag atgactttga gaagaagatg gctgacttcc acaaggagga gatggatgat
1500
caagataagg acaaagctaa gggaagaaag gaatctgagt ttgatgatga acccaaattt
1560
atgtctaaag tcataggtgc aaacaaaaac caggaggagg agaagtcagg caaatgggag
1620
ggcctgggtat atgcacctcc agggaaggaa aagcagagaa aaacagagga gctggaggag
1680
gagtctttcc cagagagatc caaaaaggaa gatcggggca agagaagcga aggtgggcac
1740
aggggctttg tgctgagaa gaatttccga gtgactgctt ataaagcagt ccaggagaaa
1800
agctcatcac ctcccccaag aaagacctct gagagccgag acaagctggg agcgaaagga
1860
gattttccca caggaaagtc ttctttttcc attactcgag aggcacaggt caatgtccgg
1920
atggactctt ttgatgagga cctcgcacga cccagtggct tattggctca ggaacgcaag
1980
ctttgccgag atctagtcca tagcaacaaa aaggaacagg agtttcgttc cattttccag
2040
cacatacaat cagctcagtc tcagcgtagc ccctcagaac tgtttgccca acatatagtg
2100
accattgttc accatgttaa agagcatcac tttgggtcct caggaatgac attacatgaa
2160
cgctttacta aatacctaaa gagaggaact gagcaggagg cagccaaaaa caagaaaagc
2220
ccagagatac acaggagaat agacatttcc cccagtacat tcagaaaaca tggtttggt
2280
catgatgaaa tgaaaagtcc ccgggaacct ggctacaagg ctgagggaaa atacaaagat
2340
gatcctgttg atctccgcct tgatattgaa cgtcgtaaaa aacataagga gagagatctt
2400
aaacgaggta aatcgagaga atcagtggat tcccagagact ccagtcactc aagggaagg
2460
tcagctgaaa aaacagagaa aactcataaa ggatcaaaga aacagaagaa gcatcggaga
2520
gcaagagaca ggtccagatc ctctctctct tcctccagct catctcactc ctacaaagca
2580
gaagagtaca ctgaagagac agaggaaaga gaggagagca ccacgggctt tgacaaatca
2640
agactgggga ccaaagactt tgtgggtcca agtgaaagag gaggtggcag agctcgagga
2700
acctttcagt ttcgagccag aggaagaggc tggggcagag gcaactactc tgggaacaat
2760
aacaacaaca gcaacaacga ttttcaaaaa agaaaccggg aagaggagtg ggaccagag
2820
tacacacca aaagcaagaa gtattacttg catgatgacc gtgaaggcga aggcagtgac
2880

aagtgggtga gccggggccg gggccgagga gcctttcctc ggggtcgggg cgggttcattg
2940
ttccggaaat caagtaccag cccaagtgg gcccatgaca agttcagtgg ggaggaaggg
3000
gagattgaag acgacgagag tgggacagag aaccgagaag agaaggacaa tatacagccc
3060
acaaccgagt aggggccacc cttgacggga ttcttgccca ggggagagag gcgctgggaa
3120
gatggctggg gaggagctta acagaggaac ctcaagaaga ttctgaaaat cctaccccca
3180
ccccccacca gccgcacaga ttgtactacc gcgagaggca tccttgccgc tgtctccac
3240
tggacagagg aggctggcca tggggcccag gggtcaggcc cagcttttga gcagaataca
3300
acgcattggg ctttagctgt tttctcatt tgttggtgtg tggggtgggg gcaagggtag
3360
ggcgggagag tgatgcttg atttttgttt cctattagaa accaacagt ttgttcta
3420
ttcatttcat ttggagctaa gatgactaat ttgatgattt tcgatctctt tccccctgtc
3480
ctgattttta aagccccctc cttttttttt ttttttttcc tttttttagg catatgtagt
3540
aatattagaa acatttaatt tgggaaactt tgattcttga aagagaaaac aaaagcatgt
3600
gaataaactt tgaagtgttc acctcagttt gggaccaaac tgcttgatc tttgtaaaaa
3660
ccggttttgt atgtcaagga ggagtttaag gcctttccga ccaccttggt tccccctttt
3720
ctgcgcagcc atgtatcacg tggagttgct ccttaccaca cctcacgtgc cctgagccc
3780
tatttctga tttcttctgg gctggacttc ccggttctcc accagcagct ccagtatccc
3840
aaactttcta gtctgtctga tcttcccagc aacggggttg aaactggagg gcagtgtctg
3900
gtctgttttc taagaaactt atgaattcta ttatctttac aaatatgaga aaattttttc
3960
aatatttttt attaatcttt ttataaaatg aaaagaaact cctatgatcg attaaggaag
4020
gtggttatgg ctgggtgggt caggggtttt tttgggtttc tttttttttt tctttgtctt
4080
tttaacctta agctgtttta gttgaagcat tctcagatgt ttggggggaa acatcctctt
4140
aaaatgggtc cttgtgcttg cttcttgggg aggcggtcct gagcaggtga atcataaggc
4200
atttatgcat atgttatatg cggactgcac ccacctctcc ccccagcct ttgcctcttg
4260
ggttgttgtg ctgctttccc cttactttgc tacatttcta tagttaagtt ggttttactt
4320
gaatgattca tgtttagggg gaaaatgaaa atctccctta aaatttggtt caactcctcc
4380
tgcaaataaa ataatgaag tggcagatgt aaaaaaaaaa aaagagaaga gaagagatcc
4440
cagcagaatt ttttttcttt aagtagactg acaaacagat tgtttctgcc tctgctgctg
4500

ccaggtgccc atgaaaaagt gg
4522

<210> 3990

<211> 955

<212> PRT

<213> Homo sapiens

<400> 3990

Met	Ser	Lys	Thr	Asn	Lys	Ser	Lys	Ser	Gly	Ser	Arg	Ser	Ser	Arg	Ser
1				5					10					15	
Arg	Ser	Ala	Ser	Arg	Ser	Arg	Ser	Arg	Ser	Phe	Ser	Lys	Ser	Arg	Ser
		20						25				30			
Arg	Ser	Arg	Ser	Leu	Ser	Arg	Ser	Arg	Lys	Arg	Arg	Leu	Ser	Ser	Arg
		35						40				45			
Ser	Arg	Ser	Arg	Ser	Tyr	Ser	Pro	Ala	His	Asn	Arg	Glu	Arg	Asn	His
		50				55				60					
Pro	Arg	Val	Tyr	Gln	Asn	Arg	Asp	Phe	Arg	Gly	His	Asn	Arg	Gly	Tyr
65					70					75				80	
Arg	Arg	Pro	Tyr	Tyr	Phe	Arg	Gly	Arg	Asn	Arg	Gly	Phe	Tyr	Pro	Trp
				85					90					95	
Gly	Gln	Tyr	Asn	Arg	Gly	Gly	Tyr	Gly	Asn	Tyr	Arg	Ser	Asn	Trp	Gln
			100					105					110		
Asn	Tyr	Arg	Gln	Ala	Tyr	Ser	Pro	Arg	Arg	Gly	Arg	Ser	Arg	Ser	Arg
		115					120					125			
Ser	Pro	Lys	Arg	Arg	Ser	Pro	Ser	Pro	Arg	Ser	Arg	Ser	His	Ser	Arg
		130				135					140				
Asn	Ser	Asp	Lys	Ser	Ser	Ser	Asp	Arg	Ser	Arg	Arg	Ser	Ser	Ser	Ser
145					150					155				160	
Arg	Ser	Ser	Ser	Asn	His	Ser	Arg	Val	Glu	Ser	Ser	Lys	Arg	Lys	Ser
				165					170					175	
Ala	Lys	Glu	Lys	Lys	Ser	Ser	Ser	Lys	Asp	Ser	Arg	Pro	Ser	Gln	Ala
		180						185				190			
Ala	Gly	Asp	Asn	Gln	Gly	Asp	Glu	Val	Lys	Glu	Gln	Thr	Phe	Ser	Gly
		195					200					205			
Gly	Thr	Ser	Gln	Asp	Thr	Lys	Ala	Ser	Glu	Ser	Ser	Lys	Pro	Trp	Pro
		210				215						220			
Asp	Ala	Thr	Tyr	Gly	Thr	Gly	Ser	Ala	Ser	Arg	Ala	Ser	Ala	Val	Ser
225					230					235				240	
Glu	Leu	Ser	Pro	Arg	Glu	Arg	Ser	Pro	Ala	Leu	Lys	Ser	Pro	Leu	Gln
			245						250					255	
Ser	Val	Val	Val	Arg	Arg	Arg	Ser	Pro	Arg	Pro	Ser	Pro	Val	Pro	Lys
		260						265					270		
Pro	Ser	Pro	Pro	Leu	Ser	Ser	Thr	Ser	Gln	Met	Gly	Ser	Thr	Leu	Pro
		275					280					285			
Ser	Gly	Ala	Gly	Tyr	Gln	Ser	Gly	Thr	His	Gln	Gly	Gln	Phe	Asp	His
		290				295					300				
Gly	Ser	Gly	Ser	Leu	Ser	Pro	Ser	Lys	Lys	Ser	Pro	Val	Gly	Lys	Ser
305					310					315				320	
Pro	Pro	Ser	Thr	Gly	Ser	Thr	Tyr	Gly	Ser	Ser	Gln	Lys	Glu	Glu	Ser
			325						330					335	
Ala	Ala	Ser	Gly	Gly	Ala	Ala	Tyr	Thr	Lys	Arg	Tyr	Leu	Glu	Glu	Gln
		340						345					350		
Lys	Thr	Glu	Asn	Gly	Lys	Asp	Lys	Glu	Gln	Lys	Gln	Thr	Asn	Thr	Asp

```

      355              360              365
Lys Glu Lys Ile Lys Glu Lys Gly Ser Phe Ser Asp Thr Gly Leu Gly
  370              375              380
Asp Gly Lys Met Lys Ser Asp Ser Phe Ala Pro Lys Thr Asp Ser Glu
  385              390              395              400
Lys Pro Phe Arg Gly Ser Gln Ser Pro Lys Arg Tyr Lys Leu Arg Asp
      405              410              415
Asp Phe Glu Lys Lys Met Ala Asp Phe His Lys Glu Glu Met Asp Asp
      420              425              430
Gln Asp Lys Asp Lys Ala Lys Gly Arg Lys Glu Ser Glu Phe Asp Asp
      435              440              445
Glu Pro Lys Phe Met Ser Lys Val Ile Gly Ala Asn Lys Asn Gln Glu
      450              455              460
Glu Glu Lys Ser Gly Lys Trp Glu Gly Leu Val Tyr Ala Pro Pro Gly
  465              470              475              480
Lys Glu Lys Gln Arg Lys Thr Glu Glu Leu Glu Glu Glu Ser Phe Pro
      485              490              495
Glu Arg Ser Lys Lys Glu Asp Arg Gly Lys Arg Ser Glu Gly Gly His
      500              505              510
Arg Gly Phe Val Pro Glu Lys Asn Phe Arg Val Thr Ala Tyr Lys Ala
      515              520              525
Val Gln Glu Lys Ser Ser Ser Pro Pro Arg Lys Thr Ser Glu Ser
      530              535              540
Arg Asp Lys Leu Gly Ala Lys Gly Asp Phe Pro Thr Gly Lys Ser Ser
  545              550              555              560
Phe Ser Ile Thr Arg Glu Ala Gln Val Asn Val Arg Met Asp Ser Phe
      565              570              575
Asp Glu Asp Leu Ala Arg Pro Ser Gly Leu Leu Ala Gln Glu Arg Lys
      580              585              590
Leu Cys Arg Asp Leu Val His Ser Asn Lys Lys Glu Gln Glu Phe Arg
      595              600              605
Ser Ile Phe Gln His Ile Gln Ser Ala Gln Ser Gln Arg Ser Pro Ser
      610              615              620
Glu Leu Phe Ala Gln His Ile Val Thr Ile Val His His Val Lys Glu
  625              630              635              640
His His Phe Gly Ser Ser Gly Met Thr Leu His Glu Arg Phe Thr Lys
      645              650              655
Tyr Leu Lys Arg Gly Thr Glu Gln Glu Ala Ala Lys Asn Lys Lys Ser
      660              665              670
Pro Glu Ile His Arg Arg Ile Asp Ile Ser Pro Ser Thr Phe Arg Lys
      675              680              685
His Gly Leu Ala His Asp Glu Met Lys Ser Pro Arg Glu Pro Gly Tyr
      690              695              700
Lys Ala Glu Gly Lys Tyr Lys Asp Asp Pro Val Asp Leu Arg Leu Asp
  705              710              715              720
Ile Glu Arg Arg Lys Lys His Lys Glu Arg Asp Leu Lys Arg Gly Lys
      725              730              735
Ser Arg Glu Ser Val Asp Ser Arg Asp Ser Ser His Ser Arg Glu Arg
      740              745              750
Ser Ala Glu Lys Thr Glu Lys Thr His Lys Gly Ser Lys Lys Gln Lys
      755              760              765
Lys His Arg Arg Ala Arg Asp Arg Ser Arg Ser Ser Ser Ser Ser
      770              775              780
Gln Ser Ser His Ser Tyr Lys Ala Glu Glu Tyr Thr Glu Glu Thr Glu

```



```

785          790          795          800
Glu Arg Glu Glu Ser Thr Thr Gly Phe Asp Lys Ser Arg Leu Gly Thr
          805          810          815
Lys Asp Phe Val Gly Pro Ser Glu Arg Gly Gly Gly Arg Ala Arg Gly
          820          825          830
Thr Phe Gln Phe Arg Ala Arg Gly Arg Gly Trp Gly Arg Gly Asn Tyr
          835          840          845
Ser Gly Asn Asn Asn Asn Asn Ser Asn Asn Asp Phe Gln Lys Arg Asn
          850          855          860
Arg Glu Glu Glu Trp Asp Pro Glu Tyr Thr Pro Lys Ser Lys Lys Tyr
865          870          875          880
Tyr Leu His Asp Asp Arg Glu Gly Glu Gly Ser Asp Lys Trp Val Ser
          885          890          895
Arg Gly Arg Gly Arg Gly Ala Phe Pro Arg Gly Arg Gly Arg Phe Met
          900          905          910
Phe Arg Lys Ser Ser Thr Ser Pro Lys Trp Ala His Asp Lys Phe Ser
          915          920          925
Gly Glu Glu Gly Glu Ile Glu Asp Asp Glu Ser Gly Thr Glu Asn Arg
          930          935          940
Glu Glu Lys Asp Asn Ile Gln Pro Thr Thr Glu
945          950          955

```

<210> 3991

<211> 381

<212> DNA

<213> Homo sapiens

<400> 3991

```

nnttaccaac cactcagaat ggtacctcga ggttctcagt tatatccagc acaacagacg
60
gatgtttatt atcaggatcc tcgaggagca gctccgccat ttgaaccagc accttatcag
120
cagggtatgt attatactcc accaccacaa tgtgtgtccc gctttgtccg acctccacca
180
tctgctctcg aacctgctcc tccctacttg gatcattatc caccctacct ccaagaacgt
240
gttgtaaact ctcatgatgg cacacagcca cagcagtacc cacctatata cccatctcac
300
tatgatggcc gtogagtgta ccctgctccg tcttacacaa gagaagagat attccgagaa
360
agccctatac ccattgagat t
381

```

<210> 3992

<211> 127

<212> PRT

<213> Homo sapiens

<400> 3992

```

Xaa Tyr Gln Pro Leu Arg Met Val Pro Arg Gly Ser Gln Leu Tyr Pro
1          5          10          15
Ala Gln Gln Thr Asp Val Tyr Tyr Gln Asp Pro Arg Gly Ala Ala Pro
          20          25          30
Pro Phe Glu Pro Ala Pro Tyr Gln Gln Gly Met Tyr Tyr Thr Pro Pro

```

```

      35              40              45
Pro Gln Cys Val Ser Arg Phe Val Arg Pro Pro Pro Ser Ala Pro Glu
      50              55              60
Pro Ala Pro Pro Tyr Leu Asp His Tyr Pro Pro Tyr Leu Gln Glu Arg
65      70      75      80
Val Val Asn Ser Gln Tyr Gly Thr Gln Pro Gln Gln Tyr Pro Pro Ile
      85              90              95
Tyr Pro Ser His Tyr Asp Gly Arg Arg Val Tyr Pro Ala Pro Ser Tyr
      100      105      110
Thr Arg Glu Glu Ile Phe Arg Glu Ser Pro Ile Pro Ile Glu Ile
      115      120      125

```

<210> 3993

<211> 394

<212> DNA

<213> Homo sapiens

<400> 3993

```

naccgcgtggg ggaggactcg agaagccgcc gccgcagcac aaaggaacga gactagcgcc
60
gcggtcgcgt cccacaggct gccgagcgga gcgcgcacag agggggccaa cattaacaaa
120
ccggattgtg agggtgaaac tcccattcac aaggcagctc gctctgggag cctagaatgc
180
atcagtcccc ttgtggcgaa tggggctcac gtcgagtaag tgtctttcgt ttattctttc
240
cagctaaaga tgtagttgag gatgttttgt ttaaaggcag tacataagca ggcaaaagtc
300
ctaaaacttt gttttcaaaa ttagtaatgt aattttgcct tttagaacag ttggtgttag
360
tgaggaaaat tgtgtggatt aaattgatct ccag
394

```

<210> 3994

<211> 72

<212> PRT

<213> Homo sapiens

<400> 3994

```

Xaa Ala Trp Gly Arg Thr Arg Glu Ala Ala Ala Ala Gln Arg Asn
1      5      10      15
Glu Thr Ser Ala Ala Val Ala Ser His Arg Leu Pro Ser Gly Ala Arg
      20      25      30
Thr Glu Gly Ala Asn Ile Asn Lys Pro Asp Cys Glu Gly Glu Thr Pro
      35      40      45
Ile His Lys Ala Ala Arg Ser Gly Ser Leu Glu Cys Ile Ser Ala Leu
      50      55      60
Val Ala Asn Gly Ala His Val Glu
65      70

```

<210> 3995

<211> 715

<212> DNA

<213> Homo sapiens

<400> 3995

nacgcgtgaa ggggacccgc tgccaaccag cccggctggc ggggggagct gcaggaggaa
 60
 ggtgctgtgg ggggagcggc cgccggagact ggcaggcggg accgctcaag cagtgtgagg
 120
 cggacccagg ccattcggag acgccacaat gcaggcagca accccacccc tccagcctct
 180
 gtcattgggt cgccgcccag cagcctgcag gaagctcagc ggggccgggc tgcctccac
 240
 tcccgggcgc tgacgctgcc ctctgcgctg catttcgcct cttcactgtt gctcaccgg
 300
 gccggtgcca atgtgcatga ggccctgcacc ttgatgaca cttctgaggg tgctgtgcac
 360atgagagcgg tgtgcggcgt tctacacct ttggcctggc tggaggcggc 420
 tacgagaacc ctgtagggca gcaaggggag cagacagcta atggagcctg ggaccgacac
 480
 tcgattcct ccagcttcca ctcggtgat gtccctgagg ctacaggcgg cctgaacctg
 540
 ctgcagccga ggctgtggt tctgcagggc atgcaggcgc gccgggtgcc cctggagatc
 600
 ccggagtttg acctgctgga ccaggactcc ctgcacgaat cccaggagca gacactgatg
 660
 gaagaagcgc caccgccggc ccagcatagt tacaagtact tgggcttcgg agaga
 715

<210> 3996

<211> 235

<212> PRT

<213> Homo sapiens

<400> 3996

Arg	Gly	Pro	Ala	Ala	Asn	Gln	Pro	Gly	Trp	Arg	Gly	Glu	Leu	Gln	Glu
1				5					10					15	
Glu	Gly	Ala	Val	Gly	Gly	Ala	Ala	Ala	Glu	Thr	Gly	Arg	Arg	Asp	Arg
		20					25						30		
Ser	Ser	Ser	Val	Arg	Arg	Thr	Gln	Ala	Ile	Arg	Arg	Arg	His	Asn	Ala
		35				40						45			
Gly	Ser	Asn	Pro	Thr	Pro	Pro	Ala	Ser	Val	Met	Gly	Ser	Pro	Pro	Ser
		50				55					60				
Ser	Leu	Gln	Glu	Ala	Gln	Arg	Gly	Arg	Ala	Ala	Ser	His	Ser	Arg	Ala
65					70				75					80	
Leu	Thr	Leu	Pro	Ser	Ala	Leu	His	Phe	Ala	Ser	Ser	Leu	Leu	Leu	Thr
			85					90						95	
Arg	Ala	Gly	Ala	Asn	Val	His	Glu	Ala	Cys	Thr	Phe	Asp	Asp	Thr	Ser
		100						105					110		
Glu	Gly	Ala	Val	His	Tyr	Phe	Tyr	Asp	Glu	Ser	Gly	Val	Arg	Arg	Ser
		115					120					125			
Tyr	Thr	Phe	Gly	Leu	Ala	Gly	Gly	Gly	Tyr	Glu	Asn	Pro	Val	Gly	Gln
		130				135					140				
Gln	Gly	Glu	Gln	Thr	Ala	Asn	Gly	Ala	Trp	Asp	Arg	His	Ser	His	Ser
145					150				155					160	
Ser	Ser	Phe	His	Ser	Ala	Asp	Val	Pro	Glu	Ala	Thr	Gly	Gly	Leu	Asn
			165					170						175	
Leu	Leu	Gln	Pro	Arg	Pro	Val	Val	Leu	Gln	Gly	Met	Gln	Val	Arg	Arg

	180		185		190										
Val	Pro	Leu	Glu	Ile	Pro	Glu	Phe	Asp	Leu	Leu	Asp	Gln	Asp	Ser	Leu
	195				200				205						
His	Glu	Ser	Gln	Glu	Gln	Thr	Leu	Met	Glu	Glu	Ala	Pro	Pro	Arg	Ala
	210				215				220						
Gln	His	Ser	Tyr	Lys	Tyr	Leu	Gly	Phe	Gly	Glu					
225					230				235						

<210> 3997

<211> 7484

<212> DNA

<213> Homo sapiens

<400> 3997

```

nncgcaaggc tgggttacgt gaggaagctg ggggtttcgc gggcagcttt agagccccag
60
tcagggaaac cgaggccggg cttcctggct gcctcgcgag cctcttcatt gctctcgccg
120
ccgccttgag gtgcctagaa tgggttcgag cctccgggga gggtccagat aaccgcagga
180
gccaccattg atttggcgct tgctgggtgc aaagcccagc gcgctaacc cttactcgcg
240
acctttcgct tcaccttcac agcagccctg cgaggagagt tgtggactgg ggcaaccttt
300
gccagtgatg agaagtgatg ctctgggcag tgctgaatct ctctgaatat gattcgaatt
360
gcagccttaa atgccagctc caccattgag gatgatcatg aaggaagctt taaaagtcac
420
aaaaccaga caaaggaggc tcaggaagca gaggttttg cattgtacca caaggccctt
480
gatctgcaga aacatgaccg gtttgaggag tctgccaaag cctaccatga gctcttggag
540
gcgagcctgc tgcgggaggc agtttcatcc ggtgatgaga aagaggggtt gaaacacctt
600
gggtgatac tgaaatattc cacttataag aacttgcccc agctggcagc ccagcgggag
660
gatctggaga cagccatgga gttctactta gaggcagtga tgctggactc cacagatgtc
720
aacctctggt ataagattgg acatgtggcc ctgaggetca tccggatccc cctggctcgc
780
catgcttttg aggaagggtc gcggtgcaat cctgaccact ggccctgttt ggataacctt
840
atcactgtcc tgtacaccct cagtgtttac acaacatgtc tgtacttcat ctgcaaagct
900
ttggagaagg attgccggta cagcaaaggg ctggtcctca aggagaagat ttttgaggag
960
cagccttgct tccggaagga ctctctcaga atgttcctca aatgtgacat gtcgattcac
1020
gatgtttcgg tgagtgcagc tgagacacag gcgattgtag atgaggcctt ggggctgcga
1080
aaaaagaggc aagcgctgat tgtgcgggag aaggagccgg acctgaaact tgtgcagccc
1140
attcctttct tcacctggaa gtgcctcgga gagagcttgc tggccatgta caatcatctc
1200

```

accacctgtg agccccacg tcccagcctt ggcaaaagga ttgatttgtc ggactaccag
1260
gacccccagcc agcctcttga gtcctccatg gtggtgacgc cagttaacgt gatccagcca
1320
agcactgtca gcaccaaccc agctgtggct gtcgccgagc ctgtgggtctc ctacacctct
1380
gtggctacaa ccagcttccc actgcacagt cctggtctgt tggagacagg cgctcctgtg
1440
ggtgatattt ctgggggaga taaatccaag aaaggggtaa aacggaagaa gatttcagaa
1500
gagagtggag aaacagcaaa gcggcggtct gccctgttcc gaaacaccaa gtgcaaaaaa
1560
gaagagaaag tagacttcca ggagcttctg atgaagttct tgccgtccag gttaagaaag
1620
ctggaccctg aggaggaaga tgattccttt aataactatg aagtccagtc agaagccaaa
1680
ctggaaagct tcccaagcat tgggctcaa aggctgtcat ttgactcagc cacattcatg
1740
gaatctgaaa agcaggacgt gcatgagttc ctgctggaga acctaaccaa cgggggcatc
1800
ctggagctga tgatgcgta cctgaaagcc atgggccaca agttcttggg aaggtggcct
1860
ccaggcttgg cggaggtcgt gctcagcgtc taccacagct ggaggaggca cagcaccagc
1920
ctgcccaacc cgctgctgag ggactgcagc aacaagcaca tcaaggacat gatgctgatg
1980
tctctctcct gcatggaact ccagctggac cagtggctgc tgaccaaagg cagaagctct
2040
gcagtgtctc ctcggaactg ccctgctggg atggtgaatg gcagatttgg acctgacttc
2100
ccagggaccc actgcctggg tgacctcta cagctgtcat ttgcctcgtc ccagcgcgac
2160
ctgttcgagg atggttggct ggagtttgtg gtccgtgttt actggctgaa ggctcgttcc
2220
ctggcgtgctc agggagacat ggagcaggcc ctggagaact atgacatctg cacagaaatg
2280
ctccagagtt ccaccgcat ccagggtggag gcaggggctg aacgaagaga cattgtcatc
2340
cggctgcca acctccataa tgactctgtg gtttccctgg aggagattga taagaacctg
2400
aagtcgctgg agcgggtgcca gtccctggag gagattcagc ggctgtatga agcaggcgac
2460
tacaaggctg ttgtgcatct gtcggcccc actttgtgca ccagtgggtt tgaccggggc
2520
aaacacctgg agtttatgac ttccattcct gagaggccag cccagctgct tcttctgcag
2580
gactccttgc tccggtgaa ggactatcgg cagtgttttg agtgttccga tgtggctctg
2640
aacgagctg tccagcagat ggtgaactca ggtgaggctg ccgccaagga ggagtgggtg
2700
gccacagtga cccaactgct gatgggcacg gagcaggccc tctctgcgga cagcagtggt
2760
agcatcctga aggtatcatc ctccaccact ggccttgtgc ggctcaccaa caacctcatc
2820

caggtcattg actgcagcat ggctgtgcag gaggaggcca aggagcccca cgtctcttca
2880
gtgtaccct ggatcattct acaccggatc atctggcagg aggaagacac cttccattct
2940
ctgtgccacc agcagcagct ccaaaaccca gcggagggaag ggatgtcaga gacgcccag
3000
ctcccatcct ccctcatgct gctgaacaca gcccacgagt atttgggcag aaggctctgg
3060
tgctgcaatt cagatggggc tctgctgcga ttctatgtgc gactactcca gaaggaactg
3120
gctgcatcca cctctgaaga cagcaccct tacaaggagg agctggagac agccttggag
3180
cagtgttct actgcctgta cagcttcccc agcaagaaga gtaaggccag gtacctggag
3240
gaacactcgg ccagcaggt ggatcttata tgggaggatg cactgttcat gtttgagtat
3300
tttaagccca agacccttcc tgaatttgac agctataaga ccagcacctg gtctgctgac
3360
ttggccaacc tactgaagag aattgccacc attgtgcctc gcacagagag gccagccctt
3420
agcctggaca aagtctctgc ctacattgag ggaacttcaa ctgaggtacc ctgcctccca
3480
gagggggctg acccctcccc tccagtgggtg aacgagcttt actacctctt ggctgattat
3540
catttcaaaa acaaggagca gtccaaggcc atcaagttct acatgcatga catctgcatc
3600
tgccccaata ggtttgattc ctgggcaggc atggctctgg ccggggccag ccgcattcag
3660
gacaagctga actccaatga gctgaagagt gatgggcccc tttggaagca tgccacgccc
3720
gtcttgaact gcttccgtcg ggccctggag attgacagct ccaacttgct cctatggatt
3780
gagtatggca ccatgtccta tgccttgac tcattcgct cactcaatt gaagcagtgg
3840
agaggcgagc tgccccctga gctcgtgcag cagatggagg gccggcgca cagcatgcta
3900
gagacagcca agcactgttt cacatcagca gcccgtcgc agggatgatg tgacgaggag
3960
gagtggctca tccactacat gctgggcaag gtggctgaga agcagcagca gccaccaccc
4020
gtttacttgc tgcactacag gcaggctggc cactacctgc acgaggaggc tgccccgtac
4080
cccaagaaga tccactacca caaccacct gagctggcca tggaggccct ggaggtgtac
4140
tttcggctcc atgttccat cctgaagctc ctggggaagc ccgattctgg ggttggtgca
4200
gaggtcctgg tcaactttat gaaggaggct gcagaaggac cctttgccag gggcgaggag
4260
aagaacacac ccaaagcttc agaaaaggag aaggcctgcc tgggtggacga ggactccac
4320
tcttcagctg ggacactgcc ggccccgga gcctccctcc cctcctcctc tggcccagg
4380
ctgacatccc caccttacac agccactccg attgaccacg attacgtcaa atgtaaaaa
4440

<210> 4089
 <211> 511
 <212> DNA
 <213> Homo sapiens

<400> 4089
 accggtctcc gcgtcttggt ggtagtggtc ccctgggccc agctgtcttt tcttttacct
 60
 ctttgtcttg cgtctttatt tctatgttct cttgtctctg cacatgggga gaaaccacc
 120
 aaccctgtgg ggctggcccc tacacagttt ttaaggggta caggggaagg aagaaacagg
 180
 caccatgtgg ggcagggggt ctgcttctat catatttcca ttttgttgtt ttaggagatc
 240
 cttccaactc tctaacaat tattttccag agaacaaaag aaaaactatg ctctccaaga
 300
 acatgtttcc ttgtaatat ttctgtcttc aaactttttc tggagagatg agtcatttga
 360
 cctgacattg agaataggct tgaagccctt tgagaggaca aaggagatag agtcagcatt
 420
 cctatctcca tgctctgaag atccaagtca cttgggttact gctccctggg ctgtctatct
 480
 tcactgttta tggaagatag agtacacctg t
 511

<210> 4090
 <211> 109
 <212> PRT
 <213> Homo sapiens

<400> 4090
 Met Trp Gly Arg Gly Ser Ala Ser Ile Ile Phe Pro Phe Cys Cys Phe
 1 5 10 15
 Arg Arg Ser Phe Gln Leu Ser Leu Thr Leu Phe Ser Arg Glu Gln Lys
 20 25 30
 Lys Asn Tyr Ala Leu Gln Glu His Val Ser Phe Val Ile Phe Leu Ser
 35 40 45
 Ser Asn Phe Phe Trp Arg Asp Glu Ser Phe Asp Leu Thr Leu Arg Ile
 50 55 60
 Gly Leu Lys Pro Phe Glu Arg Thr Lys Glu Ile Glu Ser Ala Phe Leu
 65 70 75 80
 Ser Pro Cys Ser Glu Asp Pro Ser His Leu Val Thr Ala Pro Trp Ala
 85 90 95
 Val Tyr Phe His Cys Leu Trp Lys Ile Glu Tyr Thr Cys
 100 105

<210> 4091
 <211> 1526
 <212> DNA
 <213> Homo sapiens

<400> 4091
 cacggcggtc acaccggcag cggaccgggc ttggagaac ctccgggactc aggtgctgag
 60

gtgccagcg gctccggacg tgctacgggg tgcgagcgcg ggggagttcg gggcgcacga
120
caaggaaggg cccccgggag ctctatatgg aggaaggagc ccagaatggt gtgcaccagg
180
aagacaaaaa ctttgggtgc cacttgcggtg atcctgagcg gcatgactaa catcatctgc
240
ctgctctacg tgggctgggt caccaactac atcgccagcg tgtatgtgcg ggggcaggag
300
ccggcgcccc acaagaagct ggaggaagac aaaggggaca ctctgaagat tattgagcgg
360
ctggaccacc tggagaatgt catcaagcag cacattcaag gctataggag aaatttctcc
420
cttctgaatg tgtccaacta actctgttca cctgagaaat catattcccc agctctgggt
480
atccctgaat aaccacagga gaacagttcc aggccctgat aagtcagcta ttgcaagggg
540
gacctggctg gaagatatga aggaaaaata tcattcttga actaataagt tgagagatca
600
cagccttcag gggaccagaa ggggaaggctg aacagagaag ggcaatttca cgttcgccat
660
gtccatattt ctatcgctcat gagccatctc accttacagg cagggaagtt ttgagcttag
720
agaatgggat gcgtcaagaa aaccgtggct cccccagctc tgttcctgga ttcagtgcct
780
gttgtttcat cctgtgtaga ctggagtcag ggtctacaca gttggaattc tatggaacca
840
agatgctgtg tggcagatgg atgtggactc caactgtgac aatccagaag gccttgggga
900
cttgtttcat gaacagctcc ctgtaggac tctgttgggg tgggggattc taggggcatc
960
tccgcagttt tcttctgaaa acaaaacgaa tacaagttgg gcaggtgcaa caactgtgca
1020
tgcagtcccc tccaggggt ggctagcagt attgttgggt accgtaagca cttagcattg
1080
ttaagtgagc ataagtaaca agatgcaaca gcctctggcc aagttttgaa gattttgttt
1140
taaagtatgc ttttagatgt tgacattcat gattattaaa aggaacaaaa ctcaatttgg
1200
ggtctcaaga gccacaattc tagacttcta ggatgtcagg agccatgctc ttaagcttct
1260
caccctgctg ttttaatgag attaatgatt attttccact gagcacctac ctgtgatgtt
1320
cataaaaaag tgaaataaat gactcacatg gagatttggga aggatatcac tgtggaaagt
1380
agatgttaac agcctctaga aatatgataa ttatcagcta tttgagatgc agtcaactgta
1440
atgtgataac aagatgtgtt gtgcaggtag aaagcatgga gagaaatggc acaaagtaga
1500
gttataagaa aaaaaaaaaa aaaaaa
1526

<210> 4092

<211> 146

<212> PRT

<213> Homo sapiens

<400> 4092

```

His Gly Gly Tyr Thr Gly Ser Gly Pro Gly Phe Gly Glu Pro Arg Asp
 1           5           10           15
Ser Gly Ala Glu Val Pro Ser Gly Ser Gly Arg Ala Thr Gly Cys Glu
 20           25           30
Arg Gly Gly Val Arg Gly Ala Arg Gln Gly Arg Ala Pro Gly Ser Ser
 35           40           45
Ile Trp Arg Lys Glu Pro Arg Met Val Cys Thr Arg Lys Thr Lys Thr
 50           55           60
Leu Val Ser Thr Cys Val Ile Leu Ser Gly Met Thr Asn Ile Ile Cys
 65           70           75           80
Leu Leu Tyr Val Gly Trp Val Thr Asn Tyr Ile Ala Ser Val Tyr Val
 85           90           95
Arg Gly Gln Glu Pro Ala Pro Asp Lys Lys Leu Glu Glu Asp Lys Gly
 100          105          110
Asp Thr Leu Lys Ile Ile Glu Arg Leu Asp His Leu Glu Asn Val Ile
 115          120          125
Lys Gln His Ile Gln Gly Tyr Arg Arg Asn Phe Ser Leu Leu Asn Val
 130          135          140
Ser Asn
145

```

<210> 4093

<211> 1519

<212> DNA

<213> Homo sapiens

<400> 4093

```

nngggccgcg gccggcagaa gggctgttag gagggaccac gcgccggggg cgcgatctct
60
ggcagggggc ggtgtgcagc ggaaccatgc acataggcgc ccacgccgac taccctccc
120
gaggaagaaga ggccggggcg cgctgggggg tgagagcatg agggaggccg gggggggctg
180
cttgagcgc tgctaggag cgggtgccgc gcacaccgc ctgggcgcgg cggaggcgg
240
ggagcgggca ggtcgcgcct cggcgcagcg accgccgga gctgttctga tttccgacgc
300
gcacctaggg gcccgagca gccccgcc cggcgcgcgg ccgacatggg caacgcaggg
360
agcatggatt cgcagcagac cgatttcagg gcgcacaacg tgcctttgaa gctgccgatg
420
ccagagccag gtgaactgga ggagcgattt gccatcgtgc tgaacgctat gaacctacct
480
cctgacaaag ccaggttact gcggcagtat gataatgaga aaaaatggga actgatttgt
540
gatcaggaac gattccaggt gaagaatcct cccatacat acattcaaaa gctcaaaggc
600
tatctggatc cagctgtaac caggaagaaa ttcagacggc gtgttcaaga atctacacaa
660
gtgctaagag aactggaaat ttctttaaga actaaccaca ttggatgggt cagagaattt
720

```

ctgaatgaag aaaacaaagg tcttgatggt ctagtggaat atctctcatt tgcacagtac
 780
 gcggtaactt ttgactttga aagtgtggag agtactgtgg agagctcggg ggacaaatca
 840
 aagccctgga gtaggtccat cgaggacctg cacagaggga gcaacctgcc ctcacctgtg
 900
 ggcaacagtg tctcccgtc tggaaagacat tctgcactgc gatataatac attgccaage
 960
 agaagaactc tgaaaaattc aagattagtg agtaagaaag atgatgtgca tgtctgtatc
 1020
 atgtgtttac gtgccatcat gaattatcag tatggtttca acatgggtcat gtctcatcca
 1080
 caccgtgtca atgagattgc actaagcctg aacaacaaga atcccagaac aaaagccctt
 1140
 gtcttagaac tgttggcagc cgtttgtctt gtcagaggcg ggcataaat cattttatca
 1200
 gcatttgata actttaaaaga ggtttgtgga gaaaaacagc gctttgagaa gttgatggaa
 1260
 catttcagga atgaagacaa taacatagat tttatgggtg cttctatgca gtttattaat
 1320
 attgtagtcc attcagtaga agatatgaat ttcagagttc acctgcagta tgaatttacc
 1380
 aaattaggcc tggacgaata cttggacaag ctgaaacaca ctgagagtga caagcttcaa
 1440
 gtccagatcc aggcttacct ggacaatggt tttgatgtag gagctctact ggaagatgct
 1500
 gaaactaaga atgctgcag
 1519

<210> 4094

<211> 391

<212> PRT

<213> Homo sapiens

<400> 4094

Met	Gly	Asn	Ala	Gly	Ser	Met	Asp	Ser	Gln	Gln	Thr	Asp	Phe	Arg	Ala
1				5					10					15	
His	Asn	Val	Pro	Leu	Lys	Leu	Pro	Met	Pro	Glu	Pro	Gly	Glu	Leu	Glu
			20					25					30		
Glu	Arg	Phe	Ala	Ile	Val	Leu	Asn	Ala	Met	Asn	Leu	Pro	Pro	Asp	Lys
		35					40				45				
Ala	Arg	Leu	Leu	Arg	Gln	Tyr	Asp	Asn	Glu	Lys	Lys	Trp	Glu	Leu	Ile
		50				55					60				
Cys	Asp	Gln	Glu	Arg	Phe	Gln	Val	Lys	Asn	Pro	Pro	His	Thr	Tyr	Ile
65					70					75				80	
Gln	Lys	Leu	Lys	Gly	Tyr	Leu	Asp	Pro	Ala	Val	Thr	Arg	Lys	Lys	Phe
			85						90				95		
Arg	Arg	Arg	Val	Gln	Glu	Ser	Thr	Gln	Val	Leu	Arg	Glu	Leu	Glu	Ile
			100					105					110		
Ser	Leu	Arg	Thr	Asn	His	Ile	Gly	Trp	Val	Arg	Glu	Phe	Leu	Asn	Glu
		115					120					125			
Glu	Asn	Lys	Gly	Leu	Asp	Val	Leu	Val	Glu	Tyr	Leu	Ser	Phe	Ala	Gln
		130				135					140				
Tyr	Ala	Val	Thr	Phe	Asp	Phe	Glu	Ser	Val	Glu	Ser	Thr	Val	Glu	Ser

145 150 155 160
 Ser Val Asp Lys Ser Lys Pro Trp Ser Arg Ser Ile Glu Asp Leu His
 165 170 175
 Arg Gly Ser Asn Leu Pro Ser Pro Val Gly Asn Ser Val Ser Arg Ser
 180 185 190
 Gly Arg His Ser Ala Leu Arg Tyr Asn Thr Leu Pro Ser Arg Arg Thr
 195 200 205
 Leu Lys Asn Ser Arg Leu Val Ser Lys Lys Asp Asp Val His Val Cys
 210 215 220
 Ile Met Cys Leu Arg Ala Ile Met Asn Tyr Gln Tyr Gly Phe Asn Met
 225 230 235 240
 Val Met Ser His Pro His Ala Val Asn Glu Ile Ala Leu Ser Leu Asn
 245 250 255
 Asn Lys Asn Pro Arg Thr Lys Ala Leu Val Leu Glu Leu Leu Ala Ala
 260 265 270
 Val Cys Leu Val Arg Gly Gly His Glu Ile Ile Leu Ser Ala Phe Asp
 275 280 285
 Asn Phe Lys Glu Val Cys Gly Glu Lys Gln Arg Phe Glu Lys Leu Met
 290 295 300
 Glu His Phe Arg Asn Glu Asp Asn Asn Ile Asp Phe Met Val Ala Ser
 305 310 315 320
 Met Gln Phe Ile Asn Ile Val Val His Ser Val Glu Asp Met Asn Phe
 325 330 335
 Arg Val His Leu Gln Tyr Glu Phe Thr Lys Leu Gly Leu Asp Glu Tyr
 340 345 350
 Leu Asp Lys Leu Lys His Thr Glu Ser Asp Lys Leu Gln Val Gln Ile
 355 360 365
 Gln Ala Tyr Leu Asp Asn Val Phe Asp Val Gly Ala Leu Leu Glu Asp
 370 375 380
 Ala Glu Thr Lys Asn Ala Ala
 385 390

<210> 4095

<211> 253

<212> DNA

<213> Homo sapiens

<400> 4095

ccatggggggg tggggagcag gcctcagcag ggcgggttcc caaaagacag cccagagagc

60

agggtcagat agtgggggggt ggggttcagct ccactgtcca ggtgaggaaa ctgaggctga

120

agagagatca agtagcatcc ccagcgaaat ctgaggcctc tggaggcgcc tgtgcacgtg

180

tgtctggaag tgtgtgtcca ggcagcatat ctgcatgtgt gtgcctgtcc agacagcata

240

tctgtgcacg cgt

253

<210> 4096

<211> 83

<212> PRT

<213> Homo sapiens

<400> 4096

```

Met Gly Gly Gly Glu Gln Ala Ser Ala Gly Arg Val Pro Lys Arg Gln
 1           5           10           15
Pro Arg Glu Gln Gly Gln Ile Val Gly Gly Gly Phe Ser Ser Thr Val
          20           25           30
Gln Val Arg Lys Leu Arg Leu Lys Arg Asp Gln Val Ala Ser Pro Ala
          35           40           45
Lys Ser Glu Ala Ser Gly Gly Ala Cys Ala Arg Val Ser Gly Ser Val
          50           55           60
Cys Pro Gly Ser Ile Ser Ala Cys Val Cys Leu Ser Arg Gln His Ile
65           70           75           80
Cys Ala Arg

```

<210> 4097

<211> 1385

<212> DNA

<213> Homo sapiens

<400> 4097

```

tccggagccc ggagcccgga gccccgcgcg gggcagcccc ccggggagga gcctcgtgct
60
ctgggacgcg tgccgcgcac tggcacggca ggggcgcgag ccaggctgca cgattcactg
120
cgtgctgtcc tcacttgctc tacaatgagt gccaaatctg ctatcagcaa ggaaattttt
180
gcacctcttg atgaaaggat gctgggagct gtccaagtca agaggaggac aaagaaaaag
240
attcctttct tggcaactgg aggtcaaggc gaatatttaa cttatatctg cctgtcagtg
300
acaaacaaga aaccacaca ggcgtccatc acaaaggcca aacagtttga aggctccaca
360
tcatttgctc ggagatcaca gtggatgctc gagcagcttc gccagggtta tggtatcgat
420
cctaattggg attcggcaga gtttgatttg ttgtttgaat atgcttttga ccagtgggta
480
gccagcacag cgtcagaaaa atgcaccttc ttccagatcc tccaccatac ctgccagagg
540
tacctcacgg acaggaagcc agagtattat aactgccaat ccaaaattat gggaggaaac
600
agcatcctcc attcagctgc tgacagcgtg accagcgcag tgcagaaggc aagccaggcc
660
ttgaatgagc gtggagagcg attaggccga gcagaggaga agacagaaga cctgaagaac
720
agcgcgccag agtttgaga aactgcgcac aagcttgcca tgaagcaca atgttgagaa
780
actgcctatc ctggtgactc ttcttaagag aaactgaaga gtttggtcag cagtttttac
840
aagaattcgg gacctccgct tgcttctttt ttccaatat ttggacactt agagtgggtt
900
ttgttttttc ttttcagatg ttaatgtgaa agaaagggtg ttgcattttt acatttcctt
960
aatgatcttg ctaataaatg ctacaatagc atcagcttca ttttgggttt ttgcctcctc
1020

```

ccactgtgtg tatgtgtgta tatgtatgtt ttgaatatgt tttctttatt aaaaaatatt
 1080
 tttttagtgg tgaatatgaa atttggacca aatgataaac tgcgctgagt ctaaactggc
 1140
 aacatgtatt tttttctctg atattaagca ggaaggcatt ttaatgtggt gacatcagat
 1200
 gttatttttc ctagatgaaa ataaaagtca agcagtgtatt agtttcactc actgtcctag
 1260
 ctacacttaa tttgaagatt aaaattctac attgtggaaa acaattgaat ttattgggaa
 1320
 aaacagcagt cttagatttt gctccttgca tagtaatctt ttgcatgaac catcaccagc
 1380
 gttca
 1385

<210> 4098

<211> 258

<212> PRT

<213> Homo sapiens

<400> 4098

Ser	Gly	Ala	Arg	Ser	Pro	Glu	Pro	Arg	Ala	Gly	Gln	Pro	Pro	Gly	Glu
1				5					10					15	
Glu	Pro	Arg	Ala	Leu	Gly	Arg	Val	Pro	Arg	Thr	Gly	Thr	Ala	Gly	Ala
			20					25					30		
Arg	Ala	Arg	Leu	His	Asp	Ser	Leu	Arg	Ala	Val	Leu	Thr	Cys	Ser	Thr
		35					40					45			
Met	Ser	Ala	Lys	Ser	Ala	Ile	Ser	Lys	Glu	Ile	Phe	Ala	Pro	Leu	Asp
	50				55					60					
Glu	Arg	Met	Leu	Gly	Ala	Val	Gln	Val	Lys	Arg	Thr	Lys	Lys	Lys	
65				70					75					80	
Ile	Pro	Phe	Leu	Ala	Thr	Gly	Gly	Gln	Gly	Glu	Tyr	Leu	Thr	Tyr	Ile
			85					90						95	
Cys	Leu	Ser	Val	Thr	Asn	Lys	Lys	Pro	Thr	Gln	Ala	Ser	Ile	Thr	Lys
			100					105					110		
Val	Lys	Gln	Phe	Glu	Gly	Ser	Thr	Ser	Phe	Val	Arg	Arg	Ser	Gln	Trp
	115					120					125				
Met	Leu	Glu	Gln	Leu	Arg	Gln	Val	Asn	Gly	Ile	Asp	Pro	Asn	Gly	Asp
	130					135					140				
Ser	Ala	Glu	Phe	Asp	Leu	Leu	Phe	Glu	Asn	Ala	Phe	Asp	Gln	Trp	Val
145					150					155					160
Ala	Ser	Thr	Ala	Ser	Glu	Lys	Cys	Thr	Phe	Phe	Gln	Ile	Leu	His	His
			165						170					175	
Thr	Cys	Gln	Arg	Tyr	Leu	Thr	Asp	Arg	Lys	Pro	Glu	Phe	Ile	Asn	Cys
		180						185					190		
Gln	Ser	Lys	Ile	Met	Gly	Gly	Asn	Ser	Ile	Leu	His	Ser	Ala	Ala	Asp
	195						200					205			
Ser	Val	Thr	Ser	Ala	Val	Gln	Lys	Ala	Ser	Gln	Ala	Leu	Asn	Glu	Arg
	210					215					220				
Gly	Glu	Arg	Leu	Gly	Arg	Ala	Glu	Glu	Lys	Thr	Glu	Asp	Leu	Lys	Asn
225				230						235				240	
Ser	Ala	Gln	Gln	Phe	Ala	Glu	Thr	Ala	His	Lys	Leu	Ala	Met	Lys	His
			245					250					255		

Lys Cys

<210> 4099
 <211> 511
 <212> DNA
 <213> Homo sapiens

<400> 4099
 accggtggat atagaagtac aggaatctcc aaggcaaatg tcaaaaaaaaa aaataagcaa
 60
 attagggaaa ggttttctgt gaaattacct tctgattgta gccacatgaa acacatcaac
 120
 ttaaacaata aaaaattgta taatggaatt ggatcagggg gttcccaaaa ccccttcac
 180
 tgaggtttgg caattcactg agaaggactc acaggactca gcagatagtc atacttgggg
 240
 ctttgattta ttacatttaa tacagcaaaa agacacaaag caacatttga gaaaggaaaa
 300
 ggtgcatgtg tcaaagtctg gaggaagcca ggcacaagct acaggagtca tctcctgtgt
 360
 agctagcagg atatgcttaa ttccccagc ctcaaatttt gacgacacat gtgcaatgtt
 420
 gtctacctta ccagagtttc attagaggct cagcacccat gttttcgatg gaggctagtc
 480
 acataggcaa cctctcctct ccctcacgcg t
 511

<210> 4100
 <211> 100
 <212> PRT
 <213> Homo sapiens

<400> 4100
 Met Glu Leu Asp Gln Gly Val Pro Lys Thr Pro Phe Thr Glu Val Trp
 1 5 10 15
 Gln Phe Thr Glu Lys Asp Ser Gln Asp Ser Ala Asp Ser His Thr Trp
 20 25 30
 Gly Phe Asp Leu Leu His Leu Ile Gln Gln Lys Asp Thr Lys Gln His
 35 40 45
 Leu Arg Lys Glu Lys Val His Val Ser Lys Ser Gly Gly Ser Gln Ala
 50 55 60
 Gln Ala Thr Gly Val Ile Ser Cys Val Ala Ser Arg Ile Cys Leu Ile
 65 70 75 80
 Pro Pro Ala Ser Asn Phe Asp Asp Thr Cys Ala Met Leu Ser Thr Leu
 85 90 95
 Pro Glu Phe His
 100

<210> 4101
 <211> 536
 <212> DNA
 <213> Homo sapiens

<400> 4101

tttttttttt tttttttttt tttttttttt tttttgagga accccagaaa tgtgtttatt
 60
 aagttggact cgtattgctg tgtgggggtcc cagtgcacgc gtgtgcaccc gctacaagat
 120
 ccaggaaaga tggcacacgg cagacgacga caggaaggac acctgctccc cacccttccc
 180
 gggaccccg ccatgtgcaaa attcgagctg gggctctgcag ctgcttggag agaccaggg
 240
 cctcttgctc cacagcctgc aaggtctgag caggcaacgg ccctggggcg gtgaggcccc
 300
 cgcctgggtca cccccgcgc ccccatgca ggcagtggag gggaggacac gcaggaggac
 360
 cagacgctaa aggtgtaaac gggcagccgt ggcactcctc acctctcaat aaataagata
 420
 aataactaaa taaataaaca actaaataaa gacatgaagg aatggatgca gagacgtgaa
 480
 cggtatggcgc aggacgtccc tgggtgggggc cagggtcccc ttaaggcatg tgggag
 536

<210> 4102

<211> 106

<212> PRT

<213> Homo sapiens

<400> 4102

Met	Cys	Leu	Leu	Ser	Trp	Thr	Arg	Ile	Ala	Val	Trp	Gly	Pro	Ser	Ala
1				5					10					15	
Arg	Val	Cys	Thr	Arg	Tyr	Lys	Ile	Gln	Glu	Arg	Trp	His	Thr	Ala	Asp
			20					25					30		
Asp	Asp	Arg	Lys	Asp	Thr	Cys	Ser	Pro	Pro	Phe	Pro	Gly	Pro	Arg	His
		35					40					45			
Val	Gln	Asn	Ser	Ser	Trp	Gly	Leu	Gln	Leu	Leu	Gly	Glu	Thr	Gln	Gly
		50				55					60				
Leu	Leu	Leu	His	Ser	Leu	Gln	Gly	Leu	Ser	Arg	Gln	Arg	Pro	Trp	Gly
65					70					75				80	
Gly	Glu	Ala	Pro	Ala	Trp	Ser	Leu	Pro	Ala	Pro	Pro	Met	Gln	Ala	Val
				85					90					95	
Glu	Gly	Arg	Thr	Arg	Arg	Arg	Thr	Arg	Arg						
			100					105							

<210> 4103

<211> 3040

<212> DNA

<213> Homo sapiens

<400> 4103

ncggccgcgt tccccacaga ggacagcagg acttccaagg agagcatgtc ggaggctgat
 60
 cgcgccccaga agatggacgg ggagtccgag gaggagcagg agtccgtgga caccggggag
 120
 gaggaggaag gcggtgacga gtctgacctg agttcggaaat ccagcattaa gaagaaatct
 180
 caagaggaaa ggaaagaccg acagtccctg gataagccag ccaggaaaag gaggcggaga
 240

agtagaaaga agcccagcgg tgcctcgggt tctgagtcgt ataagtcac tgcaggaagc
300
gctgagcaga cggcaccagg agacagcaca gggtagatgg aagtttctct ggactccctg
360
gatctccgag tcaaaggaat tctgtcttca caagcagaag ggttgccaa cgggccagat
420
gtgctggaga cagacggcct ccaggaagtg cctctctgca gctgccggat ggaaacaccg
480
aagagtcgag agatcaccac actggccaac aaccagtgc tggctacaga gagcgtggac
540
catgaattgg gccggtgcac aaacagcgtg gtcaagtatg agctgatgcg cccctccaac
600
aaggcccccgc tcctcgtgct gtgtgaagac caccggggcc gcatggtgaa gcaccagtgc
660
tgtcctggct gtggctactt ctgcacagcg ggtaatttta tggagtgtca gcccgagagc
720
agcatctctc accgtttcca caaagactgt gcctctcgag tcaataacgc cagctattgt
780
ccccactgtg gggaggagag ctccaaggcc aaagagggtga cgatagctaa agcagacacc
840
acctcgaccg tgacaccagt ccccgggcag gagaagggtc cgccnctgg aggcagggcc
900cgggcagtg tnnccgggc caccactctc ggaggacgac aagctgcagg 960
gtgcagctc ccacgntgcc cgagggttt gatccaacgg gacctgctgg gcttgggagg
1020
ccaactcccg gcctttccca gggaccaggg aaggaaacct tggagagcgc tctcatcgcc
1080
ctcgactcgg aaaaacccaa gaagcttcgc ttccacccaa agcagctgta cttctccgcc
1140
aggcaagggg agcttcagaa ggtgctcctc atgctggtgg acggaattga cccaacttc
1200
aaaatggagc accagaataa gcgctctcca ctgcacgccg cggcagaggc tggacacgtg
1260
gacatctgcc acatgctggt tcaggcgggc gctaattattg acacctgctc agaagaccag
1320
aggaccccg tgatggaagc agccgaaaac aaccatctgg aagcagtga gtacctcatc
1380
aaggctgggg ccctggtgga tcccaaggac gcagagggtc ctacgtgttt gcacctggct
1440
gccaagaaaag gccactacga agtggtccag tacctgcttt caaatggacg gatggacgtc
1500
aactgtcagg atgacggagg ctggacaccc atgatctggg ccacagagta caagcacgtg
1560
gacctcgtga agctgctgct gtccaagggc tctgacatca acatccgaga caacgaggag
1620
aacatttgcc tgcaactggc ggcgttctcc ggctgcgtgg acatagccga gatectgctg
1680
gctgccaagt gcgacctcca cgccgtgaac atccacggag actcgccact gcacattgcc
1740
gcccgggaga accgctacga ctgtgtcgtc ctctttcttt ctcgggattc agatgtcacc
1800
ttaaagaaca aggaaggaga gacgcccctg cagtgtgcga gcctcaactc tcagggtgtg
1860
agcgtctgc agatgagcaa ggctctgcag gactcgcccc ccgacaggcc cagccccgtg
1920

gagaggatag tgagcaggga catcgctcga ggctacgagc gcatcccat cccctgtgtc
 1980
 aacgccgtgg acagcgagcc atgccccagc aactacaagt acgtctctca gaactgctg
 2040
 acgtcccca tgaacatcga cagaaatc actcatctgc agtactgctg gtgcatcgac
 2100
 gactgctcct ccagcaactg catgtgcggc cagctcagca tgcgctgctg gtacgacaag
 2160
 gatggccggc tcctgccaga gttcaacatg gcgagcctc ccttgatctt cgaatgcaac
 2220
 cacgctgct cctgctggag gaactgccga aatcgctcg tacagaatgg tctcagggca
 2280
 aggtcgagc tctaccggac ggggacatg ggctggggcg tgcggtcct gcaggacatc
 2340
 ccaccaggca cctttgtctg cgagtatgtt ggggagctga tttcagactc agaagccgac
 2400
 gttcgagagg aagattctta cctctttgat ctgcacaata aggacgggga ggtttactgc
 2460
 atcgacgcgc ggttctacgg gaacgtcagc cggttcatca accaccactg cgagcccaac
 2520
 ctggtgcccg tgcgctggt catggccac caggacctgc ggttccccg gatcgcttc
 2580
 ttcagacccc gcctgatcga ggccggcgag cagctcgggt ttgactatgg agagcgcttc
 2640
 tgggacatca aaggcaagct cttcagctgc cgctgcggct cccccaagt ccggcactcg
 2700
 agcgcgcccc tggccagcg tcaggccagc ggggccagg agggccagga ggacggcttg
 2760
 cccgacacca gctccgggc tgcgcgacc ccctatgaga cgccgcccgc cagcggggcg
 2820
 ctcgggagcc agggaccgcc gcgtcgccga ttagaggacg aggaggagag attccgcacg
 2880
 caaccgaaag ggtccttcgg ggctgcgccc cgggcttcct ggaggggtcg gaggtgaggg
 2940
 tgcagcccct gcgggggggt gtggatgcct ccagccacc ttcccaaacc tgcggcctca
 3000
 ccgcgggccc agtcccagg ctggagcgca cactttggtg
 3040

<210> 4104

<211> 978

<212> PRT

<213> Homo sapiens

<400> 4104

Xaa	Ala	Ala	Phe	Pro	Thr	Glu	Asp	Ser	Arg	Thr	Ser	Lys	Glu	Ser	Met
1				5					10				15		
Ser	Glu	Ala	Asp	Arg	Ala	Gln	Lys	Met	Asp	Gly	Glu	Ser	Glu	Glu	Glu
			20					25					30		
Gln	Glu	Ser	Val	Asp	Thr	Gly	Glu	Glu	Glu	Gly	Gly	Asp	Glu	Ser	
			35				40					45			
Asp	Leu	Ser	Ser	Glu	Ser	Ser	Ile	Lys	Lys	Lys	Ser	Gln	Glu	Glu	Arg
	50					55					60				
Lys	Asp	Arg	Gln	Ser	Leu	Asp	Lys	Pro	Ala	Arg	Lys	Arg	Arg	Arg	Arg

65					70					75				80	
Ser	Arg	Lys	Lys	Pro	Ser	Gly	Ala	Leu	Gly	Ser	Glu	Ser	Tyr	Lys	Ser
				85					90					95	
Ser	Ala	Gly	Ser	Ala	Glu	Gln	Thr	Ala	Pro	Gly	Asp	Ser	Thr	Gly	Tyr
		100						105						110	
Met	Glu	Val	Ser	Leu	Asp	Ser	Leu	Asp	Leu	Arg	Val	Lys	Gly	Ile	Leu
		115					120					125			
Ser	Ser	Gln	Ala	Glu	Gly	Leu	Ala	Asn	Gly	Pro	Asp	Val	Leu	Glu	Thr
		130					135				140				
Asp	Gly	Leu	Gln	Glu	Val	Pro	Leu	Cys	Ser	Cys	Arg	Met	Glu	Thr	Pro
145					150					155					160
Lys	Ser	Arg	Glu	Ile	Thr	Thr	Leu	Ala	Asn	Asn	Gln	Cys	Met	Ala	Thr
				165					170						175
Glu	Ser	Val	Asp	His	Glu	Leu	Gly	Arg	Cys	Thr	Asn	Ser	Val	Val	Lys
			180						185					190	
Tyr	Glu	Leu	Met	Arg	Pro	Ser	Asn	Lys	Ala	Pro	Leu	Leu	Val	Leu	Cys
		195					200					205			
Glu	Asp	His	Arg	Gly	Arg	Met	Val	Lys	His	Gln	Cys	Cys	Pro	Gly	Cys
		210					215					220			
Gly	Tyr	Phe	Cys	Thr	Ala	Gly	Asn	Phe	Met	Glu	Cys	Gln	Pro	Glu	Ser
225					230					235					240
Ser	Ile	Ser	His	Arg	Phe	His	Lys	Asp	Cys	Ala	Ser	Arg	Val	Asn	Asn
				245					250					255	
Ala	Ser	Tyr	Cys	Pro	His	Cys	Gly	Glu	Glu	Ser	Ser	Lys	Ala	Lys	Glu
			260					265					270		
Val	Thr	Ile	Ala	Lys	Ala	Asp	Thr	Thr	Ser	Thr	Val	Thr	Pro	Val	Pro
			275				280					285			
Gly	Gln	Glu	Lys	Gly	Ser	Ala	Xaa	Gly	Gly	Arg	Ala	Asp	Thr	Thr	Thr
						295					300				
Gly	Ser	Ala	Xaa	Pro	Gly	His	His	Ser	Arg	Arg	Thr	Thr	Ser	Cys	Arg
305					310					315					320
Val	Gln	Pro	Pro	Thr	Xaa	Pro	Glu	Gly	Phe	Asp	Pro	Thr	Gly	Pro	Ala
				325					330					335	
Gly	Leu	Gly	Arg	Pro	Thr	Pro	Gly	Leu	Ser	Gln	Gly	Pro	Gly	Lys	Glu
			340				345						350		
Thr	Leu	Glu	Ser	Ala	Leu	Ile	Ala	Leu	Asp	Ser	Glu	Lys	Pro	Lys	Lys
		355					360					365			
Leu	Arg	Phe	His	Pro	Lys	Gln	Leu	Tyr	Phe	Ser	Ala	Arg	Gln	Gly	Glu
		370				375					380				
Leu	Gln	Lys	Val	Leu	Leu	Met	Leu	Val	Asp	Gly	Ile	Asp	Pro	Asn	Phe
385					390					395					400
Lys	Met	Glu	His	Gln	Asn	Lys	Arg	Ser	Pro	Leu	His	Ala	Ala	Ala	Glu
				405					410					415	
Ala	Gly	His	Val	Asp	Ile	Cys	His	Met	Leu	Val	Gln	Ala	Gly	Ala	Asn
				420				425					430		
Ile	Asp	Thr	Cys	Ser	Glu	Asp	Gln	Arg	Thr	Pro	Leu	Met	Glu	Ala	Ala
		435					440					445			
Glu	Asn	Asn	His	Leu	Glu	Ala	Val	Lys	Tyr	Leu	Ile	Lys	Ala	Gly	Ala
		450				455					460				
Leu	Val	Asp	Pro	Lys	Asp	Ala	Glu	Gly	Ser	Thr	Cys	Leu	His	Leu	Ala
465					470					475					480
Ala	Lys	Lys	Gly	His	Tyr	Glu	Val	Val	Gln	Tyr	Leu	Leu	Ser	Asn	Gly
				485					490					495	
Arg	Met	Asp	Val	Asn	Cys	Gln	Asp	Asp	Gly	Gly	Trp	Thr	Pro	Met	Ile

3289

930 935 940
 Gly Pro Pro Arg Arg Arg Leu Glu Asp Glu Glu Glu Arg Phe Arg Thr
 945 950 955 960
 Gln Pro Lys Gly Ser Phe Gly Ala Ala Pro Pro Ala Ser Trp Arg Gly
 965 970 975
 Arg Arg

<210> 4105
 <211> 775
 <212> DNA
 <213> Homo sapiens

<400> 4105
 nccccggcggt ctcccatcaa ctccccagcc agagggtactc catctcccaa gaggatgccc
 60
 tcagggtcgtg ggggacggga ccgcttcacc gctgagtcct acacagttct gggggacacg
 120
 ctgatcgacg gcggggagca ttactgggag gtgcgctacg agccggacag caaggcgttc
 180
 ggcgtgggag tggcctaccg cagcctgggc cgcttcgagc aactgggcaa gacggccgcc
 240
 tcctgggtgcc tgcactcaac aattggctgc aggtcagctt cacggaagca cgccaacaag
 300
 gtcaagggtgc tggacgcccc cgtgcccgcac tgccctgggtg tgcactgtga cttccaccaa
 360
 ggccctcctgt ccttctacaa tgcccgcacc aaacaagtgc tgcacacttt caagaccagg
 420
 ttcacacagc cgctgctgcc tgctttcacg gtatgggtgtg gcagcttcca ggtgacgaca
 480
 ggcctgcagg tccccagtcg tgtgcgctgc ctgcaaaagc gaggcagtcg taccagcagc
 540
 tccaacacca gcctcaccta ggcccccagg caccaccca gctgggggtgt ttttggggga
 600
 gtcgccgcca agcccaggct gctggagcca ggcaccctcc tctgtcactt gctgcttgga
 660
 gccttaactc cagatggggg ggtcaccaag agggagtggg caccctggcg ggccctctcc
 720
 ccacctcacc tcttaataaa ggtcagacac tggccaggca aaaaaaaaaa aaata
 775

<210> 4106
 <211> 186
 <212> PRT
 <213> Homo sapiens

<400> 4106
 Xaa Arg Ala Ser Pro Ile Asn Ser Pro Ala Arg Gly Thr Pro Ser Pro
 1 5 10 15
 Lys Arg Met Pro Ser Gly Arg Gly Gly Arg Asp Arg Phe Thr Ala Glu
 20 25 30
 Ser Tyr Thr Val Leu Gly Asp Thr Leu Ile Asp Gly Gly Glu His Tyr
 35 40 45
 Trp Glu Val Arg Tyr Glu Pro Asp Ser Lys Ala Phe Gly Val Gly Val

50	55	60
Ala Tyr Arg Ser Leu Gly	Arg Phe Glu Gln Leu Gly Lys Thr Ala Ala	
65	70	75
Ser Trp Cys Leu His Ser Thr	Ile Gly Cys Arg Ser Ala Ser Arg Lys	80
	85	90
His Ala Asn Lys Val Lys Val	Leu Asp Ala Pro Val Pro Asp Cys Leu	95
	100	105
Gly Val His Cys Asp Phe His	Gln Gly Leu Leu Ser Phe Tyr Asn Ala	110
	115	120
Arg Thr Lys Gln Val Leu His	Thr Phe Lys Thr Arg Phe Thr Gln Pro	125
	130	135
Leu Leu Pro Ala Phe Thr Val	Trp Cys Gly Ser Phe Gln Val Thr Thr	140
145	150	155
Gly Leu Gln Val Pro Ser Ala	Val Arg Cys Leu Gln Lys Arg Gly Ser	160
	165	170
Ala Thr Ser Ser Ser Asn Thr	Ser Leu Thr	175
	180	185

<210> 4107

<211> 1442

<212> DNA

<213> Homo sapiens

<400> 4107

ngcacgaggc ggtgccgggg gcggggcgcg gcggtgtca gctgactgtg gcggcggcgg
 60
 cctcgagggtg acaacttgtc tccgtcgag gctccggcgg gggcgagga ggtcgcccg
 120
 cggtcactg tcgggtcggc gagccacggg ggccgccga gcacatggc gaccaccgtc
 180
 agcactcagc gcgggccggg gtacatcggt gagtcccgaggacttcct ccgcacacg
 240
 cccacacagc agcagcggca ggtccagctg gacgcccagg cggccagcag ctgcagtacg
 300
 gaggcgcagg gcaccgtggg ccgactgaac atcacggtgg tacaggcaaa gttggccaag
 360
 aattacggca tgaccgcgat ggaccctac tgccgactgc gcctgggcta cgcggtgtac
 420
 gagacgcca cgccacacaa tggcgccaag aatccccggt ggaataaggc catccactgc
 480
 acggtgcccc caggcgtgga ctctttctat ctcgagatct tcgatgagag agccttctcc
 540
 atggacgacc gcattgcctg gaccacatc accatcccg agtccctgag gcagggcaag
 600
 gtggaggaca agtggtacag cctgagcggg aggcaggggg acgacaagga gggcatgatc
 660
 aacctcgtca tgcctacgc gctgcttcca gctgccatgg tgatgccacc ccagcccgtg
 720
 gtctgatgc caacagtgtg ccagcagggc gttggctatg tgcccatcac agggatgccc
 780
 gctgtctgta gcccggcat ggtgcccgtg gccctgcccc cggccgcccgt gaacgcccag
 840
 ccccgctgta gcgaggagga cctgaaagcc atccaggaca tgttcccaa catggaccag
 900

gaggtgatcc gctccgtgct ggaagcccag cgagggaaca aggatgccgc catcaactcc
 960
 ctgctgcaga tgggggagga gccatagagc ctctgcctcg atgccgtttt gcccccgctc
 1020
 tttggacacg ccgacccggc gctccccaag gaatgctgtc ccaacaagat tcccgtgaaa
 1080
 gagcaccgct gtcgccccct cccgtggact tctgtgccgc cccgtccaca cctgttcttg
 1140
 ggtgcatgtg ggttttcggt tcctggcggt ccaggacggg gcgggggctc ccctcccatc
 1200
 tcgtgctggg aggtctcagc gcgctctcct gtccctggga cgtgcgtctc tccttctcat
 1260
 gccgttctgg aaaatgctct tgctgtagag agcagctgct tctgccaggg tgttggaggt
 1320
 ggtggagcgc ctcccgattc cattcatggc attttgtgat gtgatgtaat tggaatagag
 1380
 ctgttgattt aaggcacaca caaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa
 1440
 aa
 1442

<210> 4108

<211> 273

<212> PRT

<213> Homo sapiens

<400> 4108

Met	Ala	Thr	Thr	Val	Ser	Thr	Gln	Arg	Gly	Pro	Val	Tyr	Ile	Gly	Glu
1				5					10					15	
Leu	Pro	Gln	Asp	Phe	Leu	Arg	Ile	Thr	Pro	Thr	Gln	Gln	Gln	Arg	Gln
		20						25					30		
Val	Gln	Leu	Asp	Ala	Gln	Ala	Pro	Ser	Ser	Cys	Ser	Thr	Glu	Ala	Gln
	35					40						45			
Gly	Thr	Val	Gly	Arg	Leu	Asn	Ile	Thr	Val	Val	Gln	Ala	Lys	Leu	Ala
	50					55					60				
Lys	Asn	Tyr	Gly	Met	Thr	Arg	Met	Asp	Pro	Tyr	Cys	Arg	Leu	Arg	Leu
65					70					75				80	
Gly	Tyr	Ala	Val	Tyr	Glu	Thr	Pro	Thr	Ala	His	Asn	Gly	Ala	Lys	Asn
			85						90					95	
Pro	Arg	Trp	Asn	Lys	Val	Ile	His	Cys	Thr	Val	Pro	Pro	Gly	Val	Asp
		100						105					110		
Ser	Phe	Tyr	Leu	Glu	Ile	Phe	Asp	Glu	Arg	Ala	Phe	Ser	Met	Asp	Asp
		115					120					125			
Arg	Ile	Ala	Trp	Thr	His	Ile	Thr	Ile	Pro	Glu	Ser	Leu	Arg	Gln	Gly
	130					135					140				
Lys	Val	Glu	Asp	Lys	Trp	Tyr	Ser	Leu	Ser	Gly	Arg	Gln	Gly	Asp	Asp
145				150						155				160	
Lys	Glu	Gly	Met	Ile	Asn	Leu	Val	Met	Ser	Tyr	Ala	Leu	Leu	Pro	Ala
			165					170					175		
Ala	Met	Val	Met	Pro	Pro	Gln	Pro	Val	Val	Leu	Met	Pro	Thr	Val	Tyr
		180						185					190		
Gln	Gln	Gly	Val	Gly	Tyr	Val	Pro	Ile	Thr	Gly	Met	Pro	Ala	Val	Cys
		195					200					205			
Ser	Pro	Gly	Met	Val	Pro	Val	Ala	Leu	Pro	Pro	Ala	Ala	Val	Asn	Ala

210	215	220	
Gln Pro Arg Cys Ser Glu Glu Asp Leu Lys Ala Ile Gln Asp Met Phe			
225	230	235	240
Pro Asn Met Asp Gln Glu Val Ile Arg Ser Val Leu Glu Ala Gln Arg			
	245	250	255
Gly Asn Lys Asp Ala Ala Ile Asn Ser Leu Leu Gln Met Gly Glu Glu			
	260	265	270
Pro			

<210> 4109

<211> 1637

<212> DNA

<213> Homo sapiens

<400> 4109

gctgccctga agctacatgg gaagtgtgat gacgtcatgc ggctcctcat ggccgagctg
 60
 ggcttgagaga tccccgccta tagcaggtgg caggatccca ttttctcact ggcgactccc
 120
 ctgctgtgctg gtgaagaagg cagccacagt cggaagtcgc tgtgcagaag cagagaggag
 180
 ctgctggggga aggtccggga gctggccagc gccgtccgga acgccaaata cttgggtcgtc
 240
 tacacaggcg cgggaatcag caccgagcgc tctatcccag actaccgggg ccctaattgga
 300
 gtgtggacac tgcttcagaa agggagaagc gttagtgtg cgcacctgag cgaggccgag
 360
 ccaaccctca cccacatgag catcacccgt ctgcatgagc agaagctggg gcagcatgtg
 420
 gtgtctcaga actgtgacgg gctccacctg aggagtgggc tgccgcgcac ggccatctcc
 480
 gagctccacg ggaacatgta cattgaagtc tgtacctct cgttcccaa cagggagtac
 540
 gtgctgggtg tcgatgtgac ggagcgcact gccctccaca gacaccagac aggccggacc
 600
 tgccacaagt gtgggaccca gctgctggac accattgtgc actttgggga gagggggacg
 660
 ttggggcagc ctctgaactg ggaagcggcg accgaggtg ccagcagagc agacaccatc
 720
 ctgtgtctag ggtccagcct gaaggttcta aagaagtacc cagcctctg gtgcatgacc
 780
 aagccccctg ccggcggccg actttacatc gtgaacctgc agtggacccc gaaggatgac
 840
 tgggctgccc tgaagctaca tgggaagtgt gatgacgtca tgctgctcct catggccgag
 900
 ctgggcttgg agatccccgc ctatagcagg tggcaggatc ccattttctc actggcgact
 960
 cccctgctg ctggtgaaga aggcagccac agtcggaagt cgctgtgcag aagcagagag
 1020
 gagggccgc ctggggaccg ggggtgcacc cttagctcgg ccccatcct agggggctgg
 1080
 ttggcaggg gctgcacaaa acgcacaaaa aggaagaaag tgacgtaatc acgtgctcga
 1140

tgaagaacag ttggcacttt gcagatggcc agtgtcacgg tgaaggctgg gttgccccca
 1200
 cggttctagg gagaacgaac tctttgggga tgacattttc accgtgacat ttttagccat
 1260
 ttgtccttga ggaagcccct tgactgtctg cggttgtacc ctgatacggc ctggccatcg
 1320
 aggacacctg cccatccggc ctctgtgtca agaggtggca gccgcacctt tctgtgagaa
 1380
 cggaactcgg gttatttcag ccccggcctg cagagtggaa gcgccacg cgctttcctc
 1440
 gctcaccagg ccagtctcag ggcctcaccg tatttctact actacttaat gaaaaagtgt
 1500
 gaactttata gaatcctctc tgtactggat gtgcggcaga ggggtggctc cgagcctcgg
 1560
 ctctatgcag acctttttat ttctattaaa cgtttctgca ctggcaaaaa aaaaaaaaaa
 1620
 aaaaaaaaaa aaaaaaa
 1637

<210> 4110

<211> 375

<212> PRT

<213> Homo sapiens

<400> 4110

Ala	Ala	Leu	Lys	Leu	His	Gly	Lys	Cys	Asp	Asp	Val	Met	Arg	Leu	Leu
1				5					10					15	
Met	Ala	Glu	Leu	Gly	Leu	Glu	Ile	Pro	Ala	Tyr	Ser	Arg	Trp	Gln	Asp
			20					25					30		
Pro	Ile	Phe	Ser	Leu	Ala	Thr	Pro	Leu	Arg	Ala	Gly	Glu	Gly	Ser	
		35				40					45				
His	Ser	Arg	Lys	Ser	Leu	Cys	Arg	Ser	Arg	Glu	Glu	Leu	Arg	Gly	Lys
	50					55				60					
Val	Arg	Glu	Leu	Ala	Ser	Ala	Val	Arg	Asn	Ala	Lys	Tyr	Leu	Val	Val
65					70				75					80	
Tyr	Thr	Gly	Ala	Gly	Ile	Ser	Thr	Ala	Ala	Ser	Ile	Pro	Asp	Tyr	Arg
			85					90					95		
Gly	Pro	Asn	Gly	Val	Trp	Thr	Leu	Leu	Gln	Lys	Gly	Arg	Ser	Val	Ser
		100					105						110		
Ala	Ala	Asp	Leu	Ser	Glu	Ala	Glu	Pro	Thr	Leu	Thr	His	Met	Ser	Ile
		115					120					125			
Thr	Arg	Leu	His	Glu	Gln	Lys	Leu	Val	Gln	His	Val	Val	Ser	Gln	Asn
		130				135					140				
Cys	Asp	Gly	Leu	His	Leu	Arg	Ser	Gly	Leu	Pro	Arg	Thr	Ala	Ile	Ser
145					150				155					160	
Glu	Leu	His	Gly	Asn	Met	Tyr	Ile	Glu	Val	Cys	Thr	Ser	Cys	Val	Pro
			165					170					175		
Asn	Arg	Glu	Tyr	Val	Arg	Val	Phe	Asp	Val	Thr	Glu	Arg	Thr	Ala	Leu
		180					185						190		
His	Arg	His	Gln	Thr	Gly	Arg	Thr	Cys	His	Lys	Cys	Gly	Thr	Gln	Leu
		195				200						205			
Arg	Asp	Thr	Ile	Val	His	Phe	Gly	Glu	Arg	Gly	Thr	Leu	Gly	Gln	Pro
	210					215					220				
Leu	Asn	Trp	Glu	Ala	Ala	Thr	Glu	Ala	Ala	Ser	Arg	Ala	Asp	Thr	Ile

225 230 235 240
 Leu Cys Leu Gly Ser Ser Leu Lys Val Leu Lys Lys Tyr Pro Arg Leu
 245 250 255
 Trp Cys Met Thr Lys Pro Pro Ala Gly Gly Arg Leu Tyr Ile Val Asn
 260 265 270
 Leu Gln Trp Thr Pro Lys Asp Asp Trp Ala Ala Leu Lys Leu His Gly
 275 280 285
 Lys Cys Asp Asp Val Met Arg Leu Leu Met Ala Glu Leu Gly Leu Glu
 290 295 300
 Ile Pro Ala Tyr Ser Arg Trp Gln Asp Pro Ile Phe Ser Leu Ala Thr
 305 310 315 320
 Pro Leu Arg Ala Gly Glu Glu Gly Ser His Ser Arg Lys Ser Leu Cys
 325 330 335
 Arg Ser Arg Glu Glu Ala Pro Pro Gly Asp Arg Gly Ala Pro Leu Ser
 340 345 350
 Ser Ala Pro Ile Leu Gly Gly Trp Phe Gly Arg Gly Cys Thr Lys Arg
 355 360 365
 Thr Lys Arg Lys Lys Val Thr
 370 375

<210> 4111
 <211> 2599
 <212> DNA
 <213> Homo sapiens

<400> 4111
 ncctgttagt tctcaccagg cttgtggaac ttaagggcct cccccggag ctgctccatc
 60
 agagacaggg tctggtcagc agtctcgcca ttctccacca catccttttt agtttccgg
 120
 gtctctgcaa tggcggtctt agactccctg tcgctcttca ctagcctcgg cctgagcgag
 180
 cagaaggccc gcgagacgct caagaactcg gctctgagcg cgcagctgcg cgaggccgct
 240
 actcaggctc agcagaccct gggttccacc attgacaaag ctaccgggat cctgttatat
 300
 ggcttggcct cccgactcag ggatacccg cgtctctcct tccttgtaag ctacatagcc
 360
 agtaagaaga tccacactga gccccagcta agcgtgccc ttgagtatgt gcggagtcac
 420
 cccttgacc ccatcgacac tgtggacttc gagcgggaat gtggcggtgg tgtcattgtg
 480
 accccagagc agattgagga ggctgtggag gctgctatta acaggcaccg gccccagctc
 540
 ctggtggaac gttaccattt caacatgggg ctgctgatgg gagaggctcg ggctgtgctg
 600
 aagtgggcag atggcaaat gatcaagaat gaagtggaca tgcaggctcct ccaccttctg
 660
 ggccccagt tggaggctga tctggagaag aagttcaagg tggcaaaagc tcggctagaa
 720
 gaaacagacc ggaggacggc aaaggatgtg gtggagaatg gcgagactgc tgaccagacc
 780
 ctgtctctga tggagcagct cgggggggag gcccttaagt tccacaagcc tggtgagaac
 840

tacaagaccc caggctatgt ggctactcca cacaccatga atctactaaa gcagcacctg
900
gagattactg gtgggcaggt acgtaccogg ttcccgccag aacccaatgg aatcctgcat
960
attggacatg ccaaagccat caatttcaac tttggctatg ccaaggccaa caatggcatc
1020
tgttttctgc gttttgatga caccaaccct gagaaggagg aagcaaagtt cttcacggcc
1080
atctgtgaca tggtagcctg gctaggctac acaccttaca aagtcacata tgcgtctgac
1140
tattttgacc agctatatgc gtgggctgtg gagctcatcc gcaggggtct ggcttatgtg
1200
tgccaccagc gaggagagga gctcaaaggc cataatactc tgccttcacc ctggagagac
1260
cgtcccatgg aggagtcact gctgctcttt gaggcaatgc gcaagggcaa gttttcagag
1320
ggcgaggcca cactacggat gaagctggtg atggaggatg gcaagatgga cctgttagcc
1380
tatcgagtca agtatacacc acaccaccgc acaggggaca aatggtgcat ctatcccacc
1440
tacgactaca cacactgcct ctgtgactcc atcgagcaca tctactactc actctgcacc
1500
aaggaattcc agggccgacg ctcttctact ttctggcttt gcaatgcact ggacgtctat
1560
tgccctgtgc agtgggagta tggccgcctc aacctgcact atgctgttgt ctctaagagg
1620
aagatcctcc agcttgtagc aactggtgct gtgcgggact gggatgaccc acggctcttt
1680
acactcacgg ccctgcgacg gcggggcttc ccacctgagg ccatcaacaa cttctgtgcc
1740
cgggtgggag tgactgtggc acaaaccaca atggagccac atcttctaga agcctgtgtg
1800
cgtgatgtgc tgaatgacac agccccacga gccatggctg tgctggagtc actacgggtc
1860
atcatcacca actttctctg tgccaagtcc ttggacatcc aggtgccc aa cttcccagct
1920
gatgagacca aaggcttcca tcagggtccc tttgcaccca ttgtcttcat tgagaggact
1980
gacttcaagg aggagccaga gccaggattt aagcgcttg cttggggcca gcctgtgggc
2040
ctgaggcata caggctacgt cattgagctg cagcatgttg tcaagggccc cagtgttgt
2100
gtagagagtc tggaggtgac ctgcagacgg gcagatgctg gagagaagcc aaaggccttt
2160
attcactggg tgtcacagcc tttgatgtgt gaggttcgcc tctatgagcg actattccag
2220
cacaagaacc ctgaagatcc tactgaggtg cctggtggat ttttaagtga cctgaacctg
2280
gcatcactac acgtggtgga tgcagcatta gtggactgct ctgtggccct ggcaaaaccc
2340
ttcgacaagt tccagtttga gcgtcttgga tatttctcgg tggatccaga cagccatcag
2400
ggaaagcttg tctttaaccg aactgtcaca ctgaaggaag acccaggaaa ggtgtgagct
2460

ggaagcactg aacctacctc atcctcctgg aggggtgtggc taccctcgcc accccaaatt
 2520
 ccatgtcaat aaagaacagc taaattcaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa
 2580
 aaaaaaaaaag atctttaat
 2599

<210> 4112

<211> 775

<212> PRT

<213> Homo sapiens

<400> 4112

Met	Ala	Ala	Leu	Asp	Ser	Leu	Ser	Leu	Phe	Thr	Ser	Leu	Gly	Leu	Ser
1			5						10					15	
Glu	Gln	Lys	Ala	Arg	Glu	Thr	Leu	Lys	Asn	Ser	Ala	Leu	Ser	Ala	Gln
			20					25					30		
Leu	Arg	Glu	Ala	Ala	Thr	Gln	Ala	Gln	Gln	Thr	Leu	Gly	Ser	Thr	Ile
			35				40					45			
Asp	Lys	Ala	Thr	Gly	Ile	Leu	Leu	Tyr	Gly	Leu	Ala	Ser	Arg	Leu	Arg
			50				55				60				
Asp	Thr	Arg	Arg	Leu	Ser	Phe	Leu	Val	Ser	Tyr	Ile	Ala	Ser	Lys	Lys
65					70					75				80	
Ile	His	Thr	Glu	Pro	Gln	Leu	Ser	Ala	Ala	Leu	Glu	Tyr	Val	Arg	Ser
				85					90					95	
His	Pro	Leu	Asp	Pro	Ile	Asp	Thr	Val	Asp	Phe	Glu	Arg	Glu	Cys	Gly
			100					105					110		
Val	Gly	Val	Ile	Val	Thr	Pro	Glu	Gln	Ile	Glu	Glu	Ala	Val	Glu	Ala
			115				120					125			
Ala	Ile	Asn	Arg	His	Arg	Pro	Gln	Leu	Leu	Val	Glu	Arg	Tyr	His	Phe
			130			135					140				
Asn	Met	Gly	Leu	Leu	Met	Gly	Glu	Ala	Arg	Ala	Val	Leu	Lys	Trp	Ala
145					150					155				160	
Asp	Gly	Lys	Met	Ile	Lys	Asn	Glu	Val	Asp	Met	Gln	Val	Leu	His	Leu
				165					170					175	
Leu	Gly	Pro	Lys	Leu	Glu	Ala	Asp	Leu	Glu	Lys	Lys	Phe	Lys	Val	Ala
			180					185					190		
Lys	Ala	Arg	Leu	Glu	Glu	Thr	Asp	Arg	Arg	Thr	Ala	Lys	Asp	Val	Val
			195				200					205			
Glu	Asn	Gly	Glu	Thr	Ala	Asp	Gln	Thr	Leu	Ser	Leu	Met	Glu	Gln	Leu
			210				215				220				
Arg	Gly	Glu	Ala	Leu	Lys	Phe	His	Lys	Pro	Gly	Glu	Asn	Tyr	Lys	Thr
225					230					235				240	
Pro	Gly	Tyr	Val	Val	Thr	Pro	His	Thr	Met	Asn	Leu	Leu	Lys	Gln	His
				245					250					255	
Leu	Glu	Ile	Thr	Gly	Gly	Gln	Val	Arg	Thr	Arg	Phe	Pro	Pro	Glu	Pro
			260					265					270		
Asn	Gly	Ile	Leu	His	Ile	Gly	His	Ala	Lys	Ala	Ile	Asn	Phe	Asn	Phe
			275				280					285			
Gly	Tyr	Ala	Lys	Ala	Asn	Asn	Gly	Ile	Cys	Phe	Leu	Arg	Phe	Asp	Asp
			290			295				300					
Thr	Asn	Pro	Glu	Lys	Glu	Glu	Ala	Lys	Phe	Phe	Thr	Ala	Ile	Cys	Asp
305					310					315				320	
Met	Val	Ala	Trp	Leu	Gly	Tyr	Thr	Pro	Tyr	Lys	Val	Thr	Tyr	Ala	Ser

3298

aatggtggaa ctgaaccaga tgccagcgcc ccagcagagc caggctggaa agcagtgtctg
 1380
 accatcctct tggcgacaaa acagtctagc cagccagctg aaacggactc catgagtctc
 1440
 tctgagaaat caaggaaaagt attccgaata ttctggcagt gggaatctct gtgctcatgc
 1500
 tgaagatact ccagcgccctt cctggagata gctggaatga gagtgacttt ttgaaaaatt
 1560
 aaggttgagt tcctttcggc cagctgacac taagtttttc ctgttctggg ttaatcataa
 1620
 ggagccccct gccatagcaa aggcagttag tgtcaactat ctgcatctgg ctgagagaga
 1680
 cccgtttcct ttcagggatg tggacagggt aagggcagca agcatgggtc tgttaaagga
 1740
 gtgtgggggt aacagactag aaggaagact aaggacctga ccaccattt cagcatcttc
 1800
 aatgtggagc agtgttctga ggactcttct atcctaggac tatgacagtg tgtattaata
 1860
 aaatatattgc taagaaaaaa aaaaaaaaaa aaaa
 1894

<210> 4114

<211> 389

<212> PRT

<213> Homo sapiens

<400> 4114

Met	Leu	Lys	Cys	Ser	Ser	Cys	Gln	Ala	Phe	Leu	Cys	Ala	Ser	Leu	Gln
1				5					10					15	
Pro	Ala	Phe	Asp	Phe	Asp	Arg	Tyr	Lys	Gln	Arg	Cys	Ala	Glu	Leu	Lys
			20					25					30		
Lys	Ala	Leu	Cys	Thr	Ala	His	Glu	Lys	Phe	Cys	Phe	Trp	Pro	Asp	Ser
		35					40					45			
Pro	Ser	Pro	Asp	Arg	Phe	Gly	Met	Leu	Pro	Leu	Asp	Glu	Pro	Ala	Ile
		50				55					60				
Leu	Val	Ser	Glu	Phe	Leu	Asp	Arg	Phe	Gln	Ser	Leu	Cys	His	Leu	Asp
65					70				75					80	
Leu	Gln	Leu	Pro	Ser	Leu	Arg	Pro	Glu	Asp	Leu	Lys	Thr	Met	Cys	Leu
				85				90						95	
Thr	Glu	Asp	Lys	Ile	Ser	Leu	Leu	Leu	His	Leu	Leu	Glu	Asp	Glu	Leu
			100					105						110	
Asp	His	Arg	Thr	Asp	Glu	Arg	Lys	Thr	Thr	Ile	Lys	Leu	Gly	Ser	Asp
		115					120					125			
Ile	Gln	Val	His	Val	Thr	Ala	Cys	Ile	Leu	Ser	Val	Cys	Gly	Trp	Ala
		130				135						140			
Cys	Ser	Ser	Ser	Leu	Glu	Ser	Met	Gln	Leu	Ser	Leu	Ile	Ala	Cys	Ser
145					150					155				160	
Gln	Cys	Met	Arg	Lys	Val	Gly	Leu	Trp	Gly	Phe	Gln	Gln	Ile	Glu	Ser
			165					170						175	
Ser	Met	Thr	Asp	Leu	Asp	Ala	Ser	Phe	Gly	Leu	Thr	Ser	Ser	Pro	Ile
		180						185						190	
Pro	Gly	Leu	Glu	Gly	Arg	Pro	Glu	Arg	Leu	Pro	Leu	Val	Pro	Glu	Ser
		195					200						205		
Pro	Arg	Arg	Met	Met	Thr	Arg	Ser	Gln	Asp	Ala	Thr	Phe	Ser	Pro	Gly

210 215 220
 Ser Glu Gln Ala Glu Lys Ser Pro Gly Pro Ile Val Ser Arg Thr Arg
 225 230 235 240
 Ser Trp Asp Ser Ser Ser Pro Val Asp Arg Pro Glu Pro Glu Ala Ala
 245 250 255
 Ser Pro Thr Thr Arg Thr Arg Pro Val Thr Arg Ser Met Gly Thr Gly
 260 265 270
 Asp Thr Pro Gly Leu Glu Val Pro Ser Ser Xaa Ser Ala Glu Ser Gln
 275 280 285
 Ala Ser Ser Leu Cys Ser Ser Ser Ser Asp Thr Ser Ser Arg Ser
 290 295 300
 Phe Phe Asp Pro Thr Ser Gln His Arg Asp Trp Cys Pro Trp Val Asn
 305 310 315 320
 Ile Thr Leu Gly Lys Glu Ser Arg Glu Asn Gly Gly Thr Glu Pro Asp
 325 330 335
 Ala Ser Ala Pro Ala Glu Pro Gly Trp Lys Ala Val Leu Thr Ile Leu
 340 345 350
 Leu Ala His Lys Gln Ser Ser Gln Pro Ala Glu Thr Asp Ser Met Ser
 355 360 365
 Leu Ser Glu Lys Ser Arg Lys Val Phe Arg Ile Phe Arg Gln Trp Glu
 370 375 380
 Ser Leu Cys Ser Cys
 385

<210> 4115

<211> 1056

<212> DNA

<213> Homo sapiens

<400> 4115

ccaaattccag ttttcatatt taaagcgaat gagccccctc ctctcagtgg gaaagatgag
 60
 ctgaagcttt actccctcga tagtggtggg aaaagaaatc agacaaaaat ctaaggaagg
 120
 accaaatatt gtacagagtg tgccagtagg cttttgcaac tggactgaaa atacctgcct
 180
 tttctctcca caggggaaag tggaagttga agctgggaaa gaaggtatga agtttgaagc
 240
 gagcgccttc tcatactatg gcgtgatggc cctgacagcc tctccaggtg aaaataagtc
 300
 ccctcctcgc ccatgtggct tgaatcactc agactctctc agtcgaagcg accggattga
 360
 cgccgtcaca ccaacactgg ggagcagcaa taaccagctc aattcttcgc tcctccaagt
 420
 ctacatcccc gattactcgg tgcgagccct ttcggatctg cagtttgtaa agatctcaag
 480
 acagcaatac caaaatgcct tgatggcatc ccggatggac aaaaccccc agtccttcaga
 540
 cagtgaatac actaaaatcg aattgactct tacggagctg catgacgggt tgccagacga
 600
 gacagccaac ctgctcaacg aacagaactg tgtgacgcac agtaaggcca accacagcct
 660
 gcacaacgaa ggccgcatct aggcgcgct ggctgcaccc gccagggccc gcaaccgccc
 720

agtcccgagg gcccgccct gtctgccat gacttcactg gtgtgagctt gtccgccatg
 780
 ctgtaccctg caacatcctg agaccaaaga ccttgtgccc tcccaggag ccgaggagga
 840
 ggacagttag ggaggaatgg aaacgagaga tgtgaagttg gcagccgggg catggcgctc
 900
 aagattttgg agatgaactg attccgccc aatagaatca tgtttatattt ttcagctctc
 960
 ccttttatca ttattcacac tcctctgccc tcgatttgca tgaagttgaa aattgttgcg
 1020
 atttattttt tcaagagatc atgtttttaa agtgtc
 1056

<210> 4116

<211> 151

<212> PRT

<213> Homo sapiens

<400> 4116

Met	Lys	Phe	Glu	Ala	Ser	Ala	Phe	Ser	Tyr	Tyr	Gly	Val	Met	Ala	Leu
1				5					10					15	
Thr	Ala	Ser	Pro	Gly	Glu	Asn	Lys	Ser	Pro	Pro	Arg	Pro	Cys	Gly	Leu
			20					25					30		
Asn	His	Ser	Asp	Ser	Leu	Ser	Arg	Ser	Asp	Arg	Ile	Asp	Ala	Val	Thr
		35					40					45			
Pro	Thr	Leu	Gly	Ser	Ser	Asn	Asn	Gln	Leu	Asn	Ser	Ser	Leu	Leu	Gln
	50					55				60					
Val	Tyr	Ile	Pro	Asp	Tyr	Ser	Val	Arg	Ala	Leu	Ser	Asp	Leu	Gln	Phe
65					70				75				80		
Val	Lys	Ile	Ser	Arg	Gln	Gln	Tyr	Gln	Asn	Ala	Leu	Met	Ala	Ser	Arg
			85					90				95			
Met	Asp	Lys	Thr	Pro	Gln	Ser	Ser	Asp	Ser	Glu	Asn	Thr	Lys	Ile	Glu
		100						105				110			
Leu	Thr	Leu	Thr	Glu	Leu	His	Asp	Gly	Leu	Pro	Asp	Glu	Thr	Ala	Asn
		115					120					125			
Leu	Leu	Asn	Glu	Gln	Asn	Cys	Val	Thr	His	Ser	Lys	Ala	Asn	His	Ser
		130				135					140				
Leu	His	Asn	Glu	Gly	Ala	Ile									
145					150										

<210> 4117

<211> 973

<212> DNA

<213> Homo sapiens

<400> 4117

nnagaccgag ttgtcgtctc tccgggggag tgagggctga aggggtggct cctgcagtcc
 60
 ggctgccaga ggctccccag gcaccggctc ctgcaggcat ttggcactag ggaagggtcc
 120
 tgggtctect gggcaccact cagagctctg tgccctgtggg tccaacaagt ccagagctgt
 180
 tggcactggt gcttccccgc tctggggcag tccgggggct gcaagtggaa acccaggggc
 240

cctgcctggc tggggactaa gcagtgtcca gagtgggggc agggagaaca gagggcttga
 300
 ggagggaggc agaggcctgt cagtgggtac cctcctccct cccatgcaca tctaggtccc
 360
 caggcacagc ctgctgtaca agcacacgac tggcctgggt gtgggcgttg gcctcagcca
 420
 cctggaggca tcttgagtg ggagaggtgt gttggttgcc caaggccagc cagacctgcg
 480
 tcaccgtcac cgggagaagc taccctgccc ccttcttcag ggatctccgc agtgaagcct
 540
 cctctaagga gtcctaggac tctcccttta gagttgggga caggggggtg tgtttggtgct
 600
 ggcttggtgc caaatactcc aggggtgtcag ctccatcccc ctgctgtcct ctgtccccag
 660
 gggctgggaa gacaccaacg gctgtgaaca aactcgctga tttcttcacc aagacggtga
 720
 ggcgaggca ctggctgcaa aagtcacccc cctctagacc tctgcaacca cagaatcccc
 780
 agcccaaagg cctttgctgg tttgagttga attcagtggt gactgaagga aaaacatata
 840
 tattcacacc tcagagtgc catccgagct cctggtgact ggaaaaaaga aatgggtcac
 900
 cctttggcct gcgaggactg ggcgggaggc cccagcccag gcgacacagg agcttccacc
 960
 tcccttcacg cgt
 973

<210> 4118

<211> 128

<212> PRT

<213> Homo sapiens

<400> 4118

Gly	Gly	Arg	Gln	Arg	Pro	Val	Ser	Gly	Tyr	Pro	Pro	Pro	Ser	His	Ala
1			5					10					15		
His	Leu	Gly	Pro	Gln	Ala	Gln	Pro	Ala	Val	Gln	Ala	His	Asp	Trp	Pro
	20						25					30			
Gly	Cys	Gly	Arg	Trp	Pro	Gln	Pro	Pro	Gly	Gly	Ile	Leu	Glu	Trp	Glu
	35					40					45				
Arg	Cys	Val	Gly	Cys	Pro	Arg	Pro	Ala	Arg	Pro	Ala	Ser	Pro	Ser	Pro
	50				55			60							
Gly	Glu	Ala	Thr	Pro	Pro	Pro	Ser	Ser	Gly	Ile	Ser	Ala	Val	Lys	Pro
65				70				75					80		
Pro	Leu	Arg	Ser	Pro	Arg	Thr	Leu	Pro	Leu	Glu	Leu	Gly	Thr	Gly	Gly
			85				90					95			
Cys	Val	Cys	Ala	Gly	Leu	Gly	Pro	Asn	Thr	Pro	Gly	Cys	Gln	Leu	His
	100					105					110				
Pro	Pro	Ala	Val	Leu	Cys	Pro	Gln	Gly	Leu	Gly	Arg	His	Gln	Arg	Leu
	115					120					125				

<210> 4119

<211> 649

<212> DNA

<213> Homo sapiens

<400> 4119
 nnagatctcc aacctctgac aagttgtcat ggcaaagtcc taagaaggat catggcaatt
 60
 aggggtggctc tccatgtccc atgacgaaac ccaaactg aatgttgtgc aatcataaaa
 120
 accaattttc tgaactacaa aaatgatcga accataaaaa tcaggaacac ctctgggtcc
 180
 agtcagacta aagatcagag gatccctggg cgtccagcct tccaacatcc ctgaccttct
 240
 gaagtctaag atctctagct gggatgtgct tcttctcctt tcttcttact gtaacacctc
 300
 ttcttacaga gctctggcct ctctacatgg attgggaacc agatgttgtc cctgagcagc
 360
 ctcccacgt gggctgtcac cctgctggca tgcacctcg tgtccattgt cactgagttt
 420
 gtgagcaacc cagcaaccat caccatcttc ctgcccaccc tgtgcagcct ggtgagtaat
 480
 gcggagctcc cagacatcca gacaggctgt cccagggggc tggagtggca ggccctggctc
 540
 agggcagctt ccgtagctgt aggtctctct ctggttactg cccacagcct tcactaattg
 600
 gtgttcaatt cctactttga aaaatgaagt ttttcaaata gcaactagt
 649

<210> 4120
 <211> 100
 <212> PRT
 <213> Homo sapiens

<400> 4120
 His Leu Phe Leu Gln Ser Ser Gly Leu Ser Thr Trp Ile Gly Asn Gln
 1 5 10 15
 Met Leu Ser Leu Ser Ser Leu Pro Pro Trp Ala Val Thr Leu Leu Ala
 20 25 30
 Cys Ile Leu Val Ser Ile Val Thr Glu Phe Val Ser Asn Pro Ala Thr
 35 40 45
 Ile Thr Ile Phe Leu Pro Ile Leu Cys Ser Leu Val Ser Asn Ala Glu
 50 55 60
 Leu Pro Asp Ile Gln Thr Gly Cys Pro Arg Gly Leu Glu Trp Gln Ala
 65 70 75 80
 Trp Leu Arg Ala Ala Ser Val Ala Val Gly Ser Pro Leu Val Thr Ala
 85 90 95
 His Ser Leu His
 100

<210> 4121
 <211> 2490
 <212> DNA
 <213> Homo sapiens

<400> 4121
 cgggccaggg gctgcgcggg cccttgcggc cgggcagtct ttctggcctt cgggctaggg
 60

ctgggcctca tcgaggaaaa acaggcggag agccggcggg cggctctcggc ctgtcaggag
120
atccaggcaa tttttaccca gaaaagcaag ccggggcctg acccgttgga cacgagacgc
180
ttgcagggct ttcggctgga ggagtatctg atagggcagt ccattggtaa gggctgcagt
240
gctgctgtgt atgaagccac catgcctaca ttgccccaga acctggaggt gacaaagagc
300
accgggttgc ttccaggag agggccaggt accagtgcac caggagaagg gcaggagcga
360
gtccggggg cccctgcctt ccccttgcc atcaagatga tgtggaacat ctccgcaggt
420
tcctccagcg aagccatctt gaacacaatg agccaggagc tgggtcccagc gagccgagt
480
gccttggtg gggagtatgg agcagtcact tacagaaaat ccaagagagg tcccaagcaa
540
ctagccctc accccaacat catccgggtt ctccgcgcct tcacctcttc cgtgccgctg
600
ctgccagggg ccctggctga ctacctgat gtgctgccct cagcctcca ccctgaaggc
660
ctgggccatg gccggacgt gtctctcgtt atgaagaact atccctgtac cctgcgccag
720
tacctttgtg tgaacacacc cagccccgc ctccgccca tgatgctgct gcagctgctg
780
gaaggcgtgg accatctggt tcaacagggc atccgcgaca gagacctgaa atccgacaac
840
atccttgtgg agctggacc cagcggctgc ccctggctgg tgatcgaga ttttggctgc
900
tgccctggctg atgagagcat cggcctgcag ttgccctca gcagctggtg cgtggatcgg
960
ggcggaaacg gctgtctgat ggccccagag gtgtccacgg ccgctcctgg ccccagggca
1020
gtgattgact acagcaaggc tgatgcctgg gcagtgggag ccatcgccca tgaaatcttc
1080
gggcttgtca atcccttcta cggccagggc aaggcccacc ttgaaagccg cagctaccaa
1140
gaggctcagc tacctgcact gcccagatca gtgcctccag acgtgagaca gttggtgagg
1200
gcactgctcc agcgagaggc cagcaagaga ccatctgccc gagtagccgc aaatgtgctt
1260
catctaagcc tctggggtga acatattcta gccctgaaga atctgaagtt agacaagatg
1320
gttggtggc tcctccaaca atcgccgcc actttgttgg ccaacaggct cacagagaag
1380
tgttgtgtgg aaacaaaaat gaagatgctc tttctggcta acctggagtg tgaaacgctc
1440
tgccaggcag ccctcctcct ctgctcatgg agggcagccc tgtgatgtcc ctgcatggag
1500
ctggtgaatt actaaaagaa cttggcatcc tctgtgtcgt gatggtctgt gaatggtgag
1560
ggtgggagtc aggagacaag acagcgaga gagggtgtg tagccgaaa aggcctcggg
1620
cttggaat ggaagaactt gaggagagt tcagtctgca gtcctgtgct cacagacatc
1680

tgaaaagtga atggccaagc tggctctagta gatgaggctg gactgaggag gggtaggcct
 1740
 gcatccacag agaggatcca ggccaaggca ctggctgtca gtggcagagt ttggctgtga
 1800
 cctttgcccc taacacgagg aactcgtttg aagggggcag cgtagcatgt ctgatttgcc
 1860
 acctggatga aggcagacat caacatgggt cagcacgttc agttacggga gtgggaaatt
 1920
 acatgaggcc tgggcctctg cgttcccaag ctgtgcgttc tggaccagct actgaattat
 1980
 taatctcact tagcgaaagt gacggatgag cagtaagtaa gtaagtgtgg ggatttaaac
 2040
 ttgagggtgt ccctcctgac tagcctctct tacaggaatt gtgaaatatt aaatgcaaatt
 2100
 ttacaactgc agatgacgta tgtgccttga actgaatatt tggctttaag aatgattctt
 2160
 cttatactct gaaggtgaga atattttgtg ggcaggtatc aacattgggg aagagagaga
 2220
 tttcatgtct aactaactaa ctttatacat gatttttagg aagctattgc ctaaatcagc
 2280
 gtcaacatgc agtaaagggt gtcttcaact gagctgttct agttttctct taccagcac
 2340
 tgtcatctag attttccatt tcagtgatcc ccaccctcg gtctactagc aacaacaact
 2400
 ttcttgatc ctttgaggag acgttaggga gaaccatcat ttcacagtta aaagaaagac
 2460
 agtccagtcc taggcaaaat ttcatgaagc
 2490

<210> 4122

<211> 494

<212> PRT

<213> Homo sapiens

<400> 4122

Arg	Ala	Arg	Gly	Cys	Ala	Gly	Pro	Cys	Gly	Arg	Ala	Val	Phe	Leu	Ala
1				5					10					15	
Phe	Gly	Leu	Gly	Leu	Gly	Leu	Ile	Glu	Glu	Lys	Gln	Ala	Glu	Ser	Arg
		20						25					30		
Arg	Ala	Val	Ser	Ala	Cys	Gln	Glu	Ile	Gln	Ala	Ile	Phe	Thr	Gln	Lys
		35					40					45			
Ser	Lys	Pro	Gly	Pro	Asp	Pro	Leu	Asp	Thr	Arg	Arg	Leu	Gln	Gly	Phe
	50					55				60					
Arg	Leu	Glu	Glu	Tyr	Leu	Ile	Gly	Gln	Ser	Ile	Gly	Lys	Gly	Cys	Ser
65				70					75					80	
Ala	Ala	Val	Tyr	Glu	Ala	Thr	Met	Pro	Thr	Leu	Pro	Gln	Asn	Leu	Glu
			85					90					95		
Val	Thr	Lys	Ser	Thr	Gly	Leu	Leu	Pro	Gly	Arg	Gly	Pro	Gly	Thr	Ser
		100						105				110			
Ala	Pro	Gly	Glu	Gly	Gln	Glu	Arg	Ala	Pro	Gly	Ala	Pro	Ala	Phe	Pro
		115				120					125				
Leu	Ala	Ile	Lys	Met	Met	Trp	Asn	Ile	Ser	Ala	Gly	Ser	Ser	Ser	Glu
	130					135					140				
Ala	Ile	Leu	Asn	Thr	Met	Ser	Gln	Glu	Leu	Val	Pro	Ala	Ser	Arg	Val

```

145          150          155          160
Ala Leu Ala Gly Glu Tyr Gly Ala Val Thr Tyr Arg Lys Ser Lys Arg
          165          170          175
Gly Pro Lys Gln Leu Ala Pro His Pro Asn Ile Ile Arg Val Leu Arg
          180          185          190
Ala Phe Thr Ser Ser Val Pro Leu Leu Pro Gly Ala Leu Val Asp Tyr
          195          200          205
Pro Asp Val Leu Pro Ser Arg Leu His Pro Glu Gly Leu Gly His Gly
          210          215          220
Arg Thr Leu Phe Leu Val Met Lys Asn Tyr Pro Cys Thr Leu Arg Gln
225          230          235          240
Tyr Leu Cys Val Asn Thr Pro Ser Pro Arg Leu Ala Ala Met Met Leu
          245          250          255
Leu Gln Leu Leu Glu Gly Val Asp His Leu Val Gln Gln Gly Ile Ala
          260          265          270
His Arg Asp Leu Lys Ser Asp Asn Ile Leu Val Glu Leu Asp Pro Asp
          275          280          285
Gly Cys Pro Trp Leu Val Ile Ala Asp Phe Gly Cys Cys Leu Ala Asp
          290          295          300
Glu Ser Ile Gly Leu Gln Leu Pro Phe Ser Ser Trp Tyr Val Asp Arg
305          310          315          320
Gly Gly Asn Gly Cys Leu Met Ala Pro Glu Val Ser Thr Ala Arg Pro
          325          330          335
Gly Pro Arg Ala Val Ile Asp Tyr Ser Lys Ala Asp Ala Trp Ala Val
          340          345          350
Gly Ala Ile Ala Tyr Glu Ile Phe Gly Leu Val Asn Pro Phe Tyr Gly
          355          360          365
Gln Gly Lys Ala His Leu Glu Ser Arg Ser Tyr Gln Glu Ala Gln Leu
          370          375          380
Pro Ala Leu Pro Glu Ser Val Pro Pro Asp Val Arg Gln Leu Val Arg
385          390          395          400
Ala Leu Leu Gln Arg Glu Ala Ser Lys Arg Pro Ser Ala Arg Val Ala
          405          410          415
Ala Asn Val Leu His Leu Ser Leu Trp Gly Glu His Ile Leu Ala Leu
          420          425          430
Lys Asn Leu Lys Leu Asp Lys Met Val Gly Trp Leu Leu Gln Gln Ser
          435          440          445
Ala Ala Thr Leu Leu Ala Asn Arg Leu Thr Glu Lys Cys Cys Val Glu
          450          455          460
Thr Lys Met Lys Met Leu Phe Leu Ala Asn Leu Glu Cys Glu Thr Leu
465          470          475          480
Cys Gln Ala Ala Leu Leu Leu Cys Ser Trp Arg Ala Ala Leu
          485          490

```

<210> 4123

<211> 1095

<212> DNA

<213> Homo sapiens

<400> 4123

```

ctaagcactc caccttgccg aaatgcgcgg cccagtgcac gggcgtccag ccatagaagg
60
agtcctcaga ggccaggtgg gcgtggggtg tctgctgcag cagcgagcag agcgtggcca
120

```

ggtccccgtc gcggcaggcg cgggtgcagcg ggaaacggag cgagagcagc tcctcgtg
 180
 agaagccccg ctctacgccg gcgctccgct cggcagcctg tgggacgccg ccgcagcgt
 240
 aatctcgttc ctttgtgctg cggcgggcggc ttctcgagtc cccccgacg cgctccttag
 300
 gccagcgagc cccgcgctct cgggtgacgg accatgtcgg cggcgggagc gggcgcgggc
 360
 gtagaggcgg gcttctccag cgaggagctg ctctcgctcc gtttcccgt gcaccgcgcc
 420
 tgccgcgacg gggacctggc cagctctgctc tcgctgctgc agcagacacc ccacgcccac
 480
 ctggcctctg aggactcctt ctatggctgg acgcccgtgc actggggcgc gcatttcggc
 540
 aagttggagt gcttagtgca gttggtgaga gcgggagcca cactcaacgt ctccaccaca
 600
 cggtagcgcg agacgccagc ccacattgca gcctttgggg gacatcctca gtgcctggtc
 660
 tggctgattc aagcaggagc caacattaac aaaccggatt gtgagggtga aactcccatt
 720
 cacaaggcag ctcgctctgg gagcctagaa tgcacagtg cccttggtggc gaatggggct
 780
 cagctcgatt cacagcacta acaaaatgga tgcggttttc acccttaa atgtgagtga
 840
 agctatagag ctataataac caaaataacc aatatcagct tttttttttt accttggtat
 900
 gaataattca tgaaaattaa ttataaacca cattattcta atcagaaatg tgaacattta
 960
 gacttcggag gaaattaaac ccacaaaact agtttaaccc tttggtttcc atttcattgc
 1020
 tttgactctg tatttatattg aaaatagatc ctagacagca aaaccatata ggctaattga
 1080
 cgacgtgtgt ggtaa
 1095

<210> 4124

<211> 155

<212> PRT

<213> Homo sapiens

<400> 4124

Met	Ser	Ala	Ala	Gly	Ala	Gly	Ala	Gly	Val	Glu	Ala	Gly	Phe	Ser	Ser
1				5					10					15	
Glu	Glu	Leu	Leu	Ser	Leu	Arg	Phe	Pro	Leu	His	Arg	Ala	Cys	Arg	Asp
			20					25					30		
Gly	Asp	Leu	Ala	Thr	Leu	Cys	Ser	Leu	Leu	Gln	Gln	Thr	Pro	His	Ala
			35				40					45			
His	Leu	Ala	Ser	Glu	Asp	Ser	Phe	Tyr	Gly	Trp	Thr	Pro	Val	His	Trp
	50					55				60					
Ala	Ala	His	Phe	Gly	Lys	Leu	Glu	Cys	Leu	Val	Gln	Leu	Val	Arg	Ala
65				70					75					80	
Gly	Ala	Thr	Leu	Asn	Val	Ser	Thr	Thr	Arg	Tyr	Ala	Gln	Thr	Pro	Ala
			85					90					95		
His	Ile	Ala	Ala	Phe	Gly	Gly	His	Pro	Gln	Cys	Leu	Val	Trp	Leu	Ile

			100					105					110				
Gln	Ala	Gly	Ala	Asn	Ile	Asn	Lys	Pro	Asp	Cys	Glu	Gly	Glu	Thr	Pro		
		115					120					125					
Ile	His	Lys	Ala	Ala	Arg	Ser	Gly	Ser	Leu	Glu	Cys	Ile	Ser	Ala	Leu		
		130				135					140						
Val	Ala	Asn	Gly	Ala	His	Val	Asp	Ser	Gln	His							
145					150					155							

```

<400> 4125
gccccggcgcg gggcagcgcg cgcgctgtct gtgcgctgcg gtcgctcggg accggggaccg
60
gggcgagggcg ccgcggggct gagcccagca gacattgcgt tggcctccga gcagggcgca
120
tcattgcagcg ttcgcgccacc ggagagaaaa ctgagaatga aattgctttg gcaagctaaa
180
atgagctcga ttcaggactg ggggtgaagag gtagaggaag gagctgttta ccatgtcacc
240
ctcaaaagag tccagattca acaggctgcc aataaaggag caagatggct aggggttgaa
300
ggggaccagc tgcctccagg acacacagtc agtcaatatg aaacctgtaa gatcaggacc
360
ataaaagctg gcaccttgga gaagcttgtg gagaacctgc tgacagcttt tggggacaat
420
gactttacct atatcagcat ctttctttca acgtacagag gctttgcctc cactaaagaa
480
gtgctggaac tactgctgga caggtatgga aacctgacaa gcccaaactg tgaagaagat
540
ggaagccaaa gttcatcaga gtccaaaatg gtgatcagga atgcaatcgc ttccatacta
600
agggcctggc ttgaccagtg tgcagaagac ttccgagagc ccctcactt cccttgctta
660
cagaaactgc tggattatct cacacggatg atgccgggct ctgaccaga aagaagagca
720
caaatcttc ttgagcagtt tcagaagcaa gaagtggaaa ctgacaatgg gcttcccaac
780
acgatctcct tcagcctgga agaggaagag gaactggagg gtggagagtc agcagaattc
840
acgtgcttct cagaagatct agtggcagag cagctgacct acatggatgc acaactcttc
900
aagaaagtag tgcctcacca ctgcctgggc tgcatttggt ctgaaagga taagaaggaa
960
aacaacatt tggctcctac gatccgtgcc accatctctc agtttaatac cctcaccaaa
1020
tgtgttgtca gcaccatcct ggggggcaaa gaactcaaaa ctcagcagag agccaaaatc
1080
attgagaagt ggatcaacat cgctcatgaa tgtagactcc tgaagaattt ttctccttg
1140
agggccatcg tttcggcact gcagtctaata tccatctatc ggttaaaaaa gacttgggct
1200

```

gccgtcccaa gggaccgaat gctgatgttt gaagaacttt cagatatctt ctcagaccat
1260
aataaccatt tgaccagccg agaactactg atgaaggaag gaacctcaaa atttgcaaac
1320
ctggacagca gtgtgaaaga aaaccagaag cgtacccaga ggcggctgca gctccagaag
1380
gacatgggtg tgatgcaggg aactgtgccc tacctgggca ccttctgac tgacctgacc
1440
atgcttgaca ctgcccttca ggactacatc gaggggtggac tgataaactt tgagaaaagg
1500
agaagggaat ttgaagtgat tgcccagata aagctcttac agtctgctg caacagctat
1560
tgcattgacc cagaccaaaa gttcatccag tggttccaga ggcagcagct cctgacagag
1620
gaggagagct atgccctgtc atgtgagatt gaagcagctg ctggcgccag caccacctcg
1680
cccaagcctc ggaagagcat ggtgaagaga ctcagcctac tgtttctagg gtctgacatg
1740
atcaccagtc cactcccac caaagagcag cccaagtcca ctgccagcgg gagctctggt
1800
gaaagcatgg actctgtcag cgtgtcatcc tgcgagtcca accactcaga ggctgaggag
1860
ggctccatta ctcccatgga caccctgat gagectcaaa aaaagctctc tgagtctctc
1920
tcactctgtt cttctatcca ttccatggac acaaattcct cagggatgtc ttccttaac
1980
aaccctctc cctccctcc gtcctgcaac aacaaccca aaatccaca gcgctctgtc
2040
tcggtgacgt ccattacctc gactgtgtgt cctctgtttt acaaccaaca gaatgaagac
2100
acctgcataa tccgcatcag tgtggaagac aataacggca acatgtacaa gagcatcatg
2160
ttgacgagcc aggataaaac ccccgctgtg atccagagag ccatgctgaa gcacaatctg
2220
gactcagacc ccgccgagga gtacgagctg gtgcaggta tctcggagga caaagaactt
2280
gtgattccag actcagcaaa tgtcttttat gccatgaaca gccaagtga ctttgacttc
2340
atthtgcgca aaaagaactc catggaagaa caagtgaac tgcgtagccg gaccagcttg
2400
acgttgccca ggacagctaa acggggctgc tggagtaaca gacacagcaa aatcacctc
2460
tgaaggagg gaccagtggc cccttgtttg ccaaaggcag agtggggctg agaaacaggc
2520
tgcggtgatt gcaattacca tccggtgttc gaggatcatt ggtgaagtca gcagatatth
2580
attgagttcc tgtggtgtgc aaagcattat gataggcacc gtggggaaac tggaaatgaa
2640
tttgacatga aaaggatgaa cgattcactg attctctttg actcatttga gactaaaatg
2700
cagaattacc aacatttaaa acatatatat gcacatgtat ttggtatgca tgtgtatcta
2760
tataaaaata tataagaggg actttatggg atagtatgga ctatggaaaa acaaatttgc
2820

acaatggcct gggaagttga ggtcactttt tacagggaaa tagaagaaac tgagaaccta
2880
gtctcgtata ttctgagtaa atggaatcag tcctgggaat agagagtgtc ctttgtgcc
2940
gtattacaag aagcccaaac tttattttta taaagggaga ggatgacttt ctcaatcaag
3000
tgccaccaga taaaaacaac tgcagaggct ggaactgcc aaggctgtat gaaaggccac
3060
tttggaagg gtttggatga gctgggtggc ttcaacctct gcctgcatct gccactttct
3120
gctaccctag ggaggccagg aggagcttcg gaggaccatc gcccactgg tctagccatc
3180
atgacacctc tggaggtgtc aagctcctga aacaagctca tttcagtttc tggcaacccc
3240
gtgtatttcc gttttccccc taaagaacat atcataatca ttgcacaaat aaccatgttc
3300
tttggtaatg aagccagaaa agaaagcgca aaagaatggg gactcatttg gactcttate
3360
tgtcttgaa tgcactgct tcattgcctt ctctgattgc cttttgcatg taaaactatg
3420
tgtctggagt cttttgccat ctggatctta gtacctcttt attatgtgca atttattcct
3480
cagggtgtga aatttctact gcaattgact acgtttgatt attttgagct tgtgaaagat
3540
ttctgaacag tgattgtccc gttaatagcc cctcagaaga tgttcctgc tgataacagc
3600
atcctatttt acttactttt atagcattac tgtgcctagt cgtggggaaa gagatggggc
3660
tgtatagatt atctgaatca tttgtctaag aggtacattc ttccagatgg aatcaataac
3720
ttttttttt ccagggtccc gtgcttgcta tcacagtatc attgttaagt gacacttttg
3780
tctctcataa caccatcaca ctcttccttc caagtctgag ctgtgctggg gtttgaacta
3840
aaagccatat gtggaatatt gacatgtgta agaagcactt tcagaatgtt gtccctttta
3900
agaaatgatt ctcaaaatac cagtttttat tccaaaaatt tagagaacaa acccggaata
3960
tgaagtgcag attgtaacat ggagctattt ttttttcccta atcccataat acagctccta
4020
aaagtgtgtt gggatttgctg ttgcataaat agccatgtga attccacaag aagcaccagg
4080
gaaagtttag agatttgctg caatggaccg aagaacgggc caggaagtcc tccaatttcc
4140
tttgtcttt ccaggagatt ggactacaca ttgtaaagac tgactgggtt tcaactagtc
4200
aaaaagcact ttcttctgtt ttcaatccct gtctgatttg tgettctgtg cttgtaggag
4260
agatggccag ggtggcagcc ctcatgcagg ttgaagtata ttagcctca gcctgatatt
4320
cttggctgca aggtaaaaaa aaaaaataa ataaaaccat tggcctgggt gagggcgtga
4380
ccaccaagac atatatgttg tgcccgtgtt catcctgtgt atttatactg tatatgtaga
4440

gtctagattt atatactgca atgtaaaata tatatatatt tacctttttt aaagacaatg
 4500
 gaaattccaa gtagctaaaa cttagcttca tttatttaat gccacttta atgtcttaaa
 4560
 tttgtttcct ggtggacagc cgggtaatgc ttttagctgc tcgcatgctt gtctttctgc
 4620
 atctccatca tctgtttacc ttttggttaa actaataaac tagtttggga cttggctggc
 4680
 atgtgctgcc agacccaaag ggaaaaaaaa a
 4711

<210> 4126

<211> 820

<212> PRT

<213> Homo sapiens

<400> 4126

Ala	Ala	Ala	Gly	Ala	Ala	Arg	Arg	Val	Ser	Val	Arg	Cys	Gly	Arg	Ser
1				5					10					15	
Gly	Pro	Gly	Pro	Gly	Arg	Gly	Ala	Ala	Gly	Leu	Ser	Pro	Ala	Asp	Ile
			20					25					30		
Ala	Leu	Ala	Ser	Glu	Gln	Gly	Ala	Ser	Cys	Ser	Val	Arg	Ala	Pro	Glu
			35				40					45			
Arg	Lys	Leu	Arg	Met	Lys	Leu	Leu	Trp	Gln	Ala	Lys	Met	Ser	Ser	Ile
	50					55					60				
Gln	Asp	Trp	Gly	Glu	Glu	Val	Glu	Glu	Gly	Ala	Val	Tyr	His	Val	Thr
65					70					75					80
Leu	Lys	Arg	Val	Gln	Ile	Gln	Gln	Ala	Ala	Asn	Lys	Gly	Ala	Arg	Trp
				85					90					95	
Leu	Gly	Val	Glu	Gly	Asp	Gln	Leu	Pro	Pro	Gly	His	Thr	Val	Ser	Gln
			100					105					110		
Tyr	Glu	Thr	Cys	Lys	Ile	Arg	Thr	Ile	Lys	Ala	Gly	Thr	Leu	Glu	Lys
		115					120					125			
Leu	Val	Glu	Asn	Leu	Leu	Thr	Ala	Phe	Gly	Asp	Asn	Asp	Phe	Thr	Tyr
			130			135				140					
Ile	Ser	Ile	Phe	Leu	Ser	Thr	Tyr	Arg	Gly	Phe	Ala	Ser	Thr	Lys	Glu
145					150					155					160
Val	Leu	Glu	Leu	Leu	Leu	Asp	Arg	Tyr	Gly	Asn	Leu	Thr	Ser	Pro	Asn
				165					170					175	
Cys	Glu	Glu	Asp	Gly	Ser	Gln	Ser	Ser	Ser	Glu	Ser	Lys	Met	Val	Ile
			180					185					190		
Arg	Asn	Ala	Ile	Ala	Ser	Ile	Leu	Arg	Ala	Trp	Leu	Asp	Gln	Cys	Ala
		195					200					205			
Glu	Asp	Phe	Arg	Glu	Pro	Pro	His	Phe	Pro	Cys	Leu	Gln	Lys	Leu	Leu
		210					215				220				
Asp	Tyr	Leu	Thr	Arg	Met	Met	Pro	Gly	Ser	Asp	Pro	Glu	Arg	Arg	Ala
225					230					235					240
Gln	Asn	Leu	Leu	Glu	Gln	Phe	Gln	Lys	Gln	Glu	Val	Glu	Thr	Asp	Asn
				245					250					255	
Gly	Leu	Pro	Asn	Thr	Ile	Ser	Phe	Ser	Leu	Glu	Glu	Glu	Glu	Glu	Leu
			260					265					270		
Glu	Gly	Gly	Glu	Ser	Ala	Glu	Phe	Thr	Cys	Phe	Ser	Glu	Asp	Leu	Val
		275					280					285			
Ala	Glu	Gln	Leu	Thr	Tyr	Met	Asp	Ala	Gln	Leu	Phe	Lys	Lys	Val	Val

290	295	300
Pro His His Cys Leu Gly Cys Ile Trp Ser Arg Arg Asp Lys Lys Glu		
305	310	315
Asn Lys His Leu Ala Pro Thr Ile Arg Ala Thr Ile Ser Gln Phe Asn		
325	330	335
Thr Leu Thr Lys Cys Val Val Ser Thr Ile Leu Gly Gly Lys Glu Leu		
340	345	350
Lys Thr Gln Gln Arg Ala Lys Ile Ile Glu Lys Trp Ile Asn Ile Ala		
355	360	365
His Glu Cys Arg Leu Leu Lys Asn Phe Ser Ser Leu Arg Ala Ile Val		
370	375	380
Ser Ala Leu Gln Ser Asn Ser Ile Tyr Arg Leu Lys Lys Thr Trp Ala		
385	390	395
Ala Val Pro Arg Asp Arg Met Leu Met Phe Glu Glu Leu Ser Asp Ile		
405	410	415
Phe Ser Asp His Asn Asn His Leu Thr Ser Arg Glu Leu Leu Met Lys		
420	425	430
Glu Gly Thr Ser Lys Phe Ala Asn Leu Asp Ser Ser Val Lys Glu Asn		
435	440	445
Gln Lys Arg Thr Gln Arg Arg Leu Gln Leu Gln Lys Asp Met Gly Val		
450	455	460
Met Gln Gly Thr Val Pro Tyr Leu Gly Thr Phe Leu Thr Asp Leu Thr		
465	470	475
Met Leu Asp Thr Ala Leu Gln Asp Tyr Ile Glu Gly Gly Leu Ile Asn		
485	490	495
Phe Glu Lys Arg Arg Arg Glu Phe Glu Val Ile Ala Gln Ile Lys Leu		
500	505	510
Leu Gln Ser Ala Cys Asn Ser Tyr Cys Met Thr Pro Asp Gln Lys Phe		
515	520	525
Ile Gln Trp Phe Gln Arg Gln Gln Leu Leu Thr Glu Glu Glu Ser Tyr		
530	535	540
Ala Leu Ser Cys Glu Ile Glu Ala Ala Ala Gly Ala Ser Thr Thr Ser		
545	550	555
Pro Lys Pro Arg Lys Ser Met Val Lys Arg Leu Ser Leu Leu Phe Leu		
565	570	575
Gly Ser Asp Met Ile Thr Ser Pro Thr Pro Thr Lys Glu Gln Pro Lys		
580	585	590
Ser Thr Ala Ser Gly Ser Ser Gly Glu Ser Met Asp Ser Val Ser Val		
595	600	605
Ser Ser Cys Glu Ser Asn His Ser Glu Ala Glu Glu Gly Ser Ile Thr		
610	615	620
Pro Met Asp Thr Pro Asp Glu Pro Gln Lys Lys Leu Ser Glu Ser Ser		
625	630	635
Ser Ser Cys Ser Ser Ile His Ser Met Asp Thr Asn Ser Ser Gly Met		
645	650	655
Ser Ser Leu Ile Asn Pro Leu Ser Ser Pro Pro Ser Cys Asn Asn Asn		
660	665	670
Pro Lys Ile His Lys Arg Ser Val Ser Val Thr Ser Ile Thr Ser Thr		
675	680	685
Val Leu Pro Pro Val Tyr Asn Gln Gln Asn Glu Asp Thr Cys Ile Ile		
690	695	700
Arg Ile Ser Val Glu Asp Asn Asn Gly Asn Met Tyr Lys Ser Ile Met		
705	710	715
Leu Thr Ser Gln Asp Lys Thr Pro Ala Val Ile Gln Arg Ala Met Leu		

```

              725              730              735
Lys His Asn Leu Asp Ser Asp Pro Ala Glu Glu Tyr Glu Leu Val Gln
              740              745              750
Val Ile Ser Glu Asp Lys Glu Leu Val Ile Pro Asp Ser Ala Asn Val
              755              760              765
Phe Tyr Ala Met Asn Ser Gln Val Asn Phe Asp Phe Ile Leu Arg Lys
              770              775              780
Lys Asn Ser Met Glu Glu Gln Val Lys Leu Arg Ser Arg Thr Ser Leu
785              790              795              800
Thr Leu Pro Arg Thr Ala Lys Arg Gly Cys Trp Ser Asn Arg His Ser
              805              810              815
Lys Ile Thr Leu
              820

```

<210> 4127

<211> 2189

<212> DNA

<213> Homo sapiens

<400> 4127

```

ccatgcttcc tgccctcggc caccagcaag ctgtcgggcg cagtggagca gtggctgagt
60
gcagctgagc ggctgtatgg gccctacatg tggggcagggt acgacattgt cttcctgcca
120
ccctccttcc ccacgtggc catggagaac cctgcctca cttcatcat ctcctccatc
180
ctggagagcg atgagttcct ggtcatcgat gtcattccacg aggtggccca cagttggttc
240
ggcaacgctg tcaccaacgc cacgtgggaa gagatgtggc tgagcgaggg cctggccacc
300
tatgcccagc gccgtatcac caccgagacc tacggtgctg cttcacctg cctggagact
360
gccttccgcc tggacgccct gcaccggcag atgaagcttc tgggagagga cagcccggtc
420
agcaaaactgc aggtcaagct ggagccagga gtgaatccca gccacctgat gaacctgttc
480
acctacgaga agggctactg cttcgtgtac tacctgtccc agctctgcgg agaccacag
540
cgctttgatg actttctccg agcctatgtg gagaagtaca agttcaccag cgtgggtggc
600
caggacctgc tggactcctt cctgagcttc ttcccggagc tgaaggagca gagcgtggac
660
tgccgggcag ggctggaatt cgagcgctgg ctcaatgcca caggcccggc gctggctgag
720
ccggacctgt ctcagggatc cagcctgacc cggcccgtgg aggccctttt ccagctgtgg
780
accgcagaac ctctggacca ggcagctgcc tccgccagcg ccattgacat ctccaagtgg
840
aggaccttcc agacagcact cttcctggac cggctcctgg atgggtcccc gctgccgcag
900
gaggtggtga tgagcctgtc caagtgttac tcctccctgc tggactcgat gaacgctgag
960
atccgcatcc gctggctgca gattgtggtc cgcaacgact actatcctga cctccacagg
1020

```

gtgcggcgct tcctggagag ccagatgtca cgcattgtaca ccatcccgct gtacgaggac
 1080
 ctctgcaccg gtgccctcaa gtcccttcgcg ctggagggtct tctaccagac gcagggcccg
 1140
 ctgcacccca acctgcgcag agccatccag cagatcctgt cccagggcct gggctccagc
 1200
 acagagcccg cctcagagcc cagcacggag ctgggcaagg ctgaagcaga cacagactcg
 1260
 gacgcacagg ccctgctgct tggggacgag gccccagca gtgccatctc tctcagggac
 1320
 gtcaatgtgt ctgcctagcc ctgttggcgg gctgaccctc gacctccag acaccacaat
 1380
 tgtgccttct gtggggccagg cctgccatga ctgcgtctcg gctctggcca tgagctctgc
 1440
 ccaggcccac aagccctcc cctgggctct cccaggcagg gagaatgggg agagggacct
 1500
 ccttgtgtct ggcagagacc tgtggacctg gcctcccccac tcccagctct cttgcactgc
 1560
 aggcctctgg gccagcccg acacaccatg cctcctgtct caacactgac agctgtgcct
 1620
 agccccgat gccagcacct gccagggtgc gccccggggc aagggcccca gcagccctat
 1680
 ggtgaccgcc aactgtgtcc ttaatgtctg ccggggggccc aggtgtgtct gtccctgcag
 1740
 cagcctcct tgcagggatc tgagccaccc tccccgcaca gccctgcacc ccgcccctag
 1800
 gggttgccagc ctcagttggc ccctggcaga ggaacaagga cacagacatt ccctcagtgt
 1860
 ggggggcagg ggacacaggg agaggatggt tgtccctggg gagggccctc tggccccagg
 1920
 caaccttagc ccctcagaac agggagtccc aggaccagg gagagtgtgg ggacaggaca
 1980
 gcctgtctct ttagcttcc tggggtgagg ggcacagggg caaagcaata cccaggggaa
 2040
 agtgggaggt ggtgctggtg ctctctccag gccaccatg ctgggagagg cggccagagc
 2100
 ctggggcctc cagcctggga ctgctgtgat ggggtatcac ggtgatggc ccattaaact
 2160
 tccactctgc aaacctgaaa aaaaaaaaaa
 2189

<210> 4128

<211> 445

<212> PRT

<213> Homo sapiens

<400> 4128

Pro	Cys	Phe	Leu	Pro	Ser	Ala	Thr	Ser	Lys	Leu	Ser	Gly	Ala	Val	Glu
1				5				10					15		
Gln	Trp	Leu	Ser	Ala	Ala	Glu	Arg	Leu	Tyr	Gly	Pro	Tyr	Met	Trp	Gly
		20						25				30			
Arg	Tyr	Asp	Ile	Val	Phe	Leu	Pro	Pro	Ser	Phe	Pro	Ile	Val	Ala	Met
		35					40				45				
Glu	Asn	Pro	Cys	Leu	Thr	Phe	Ile	Ile	Ser	Ser	Ile	Leu	Glu	Ser	Asp

50	55	60
Glu Phe Leu Val Ile Asp Val Ile His Glu Val Ala His Ser Trp Phe		
65	70	75
Gly Asn Ala Val Thr Asn Ala Thr Trp Glu Glu Met Trp Leu Ser Glu		80
	85	90
Gly Leu Ala Thr Tyr Ala Gln Arg Arg Ile Thr Thr Glu Thr Tyr Gly		95
	100	105
Ala Ala Phe Thr Cys Leu Glu Thr Ala Phe Arg Leu Asp Ala Leu His		110
	115	120
Arg Gln Met Lys Leu Leu Gly Glu Asp Ser Pro Val Ser Lys Leu Gln		125
	130	135
Val Lys Leu Glu Pro Gly Val Asn Pro Ser His Leu Met Asn Leu Phe		140
	145	150
Thr Tyr Glu Lys Gly Tyr Cys Phe Val Tyr Tyr Leu Ser Gln Leu Cys		155
	165	170
Gly Asp Pro Gln Arg Phe Asp Asp Phe Leu Arg Ala Tyr Val Glu Lys		175
	180	185
Tyr Lys Phe Thr Ser Val Val Ala Gln Asp Leu Leu Asp Ser Phe Leu		190
	195	200
Ser Phe Phe Pro Glu Leu Lys Glu Gln Ser Val Asp Cys Arg Ala Gly		205
	210	215
Leu Glu Phe Glu Arg Trp Leu Asn Ala Thr Gly Pro Pro Leu Ala Glu		220
	225	230
Pro Asp Leu Ser Gln Gly Ser Ser Leu Thr Arg Pro Val Glu Ala Leu		235
	245	250
Phe Gln Leu Trp Thr Ala Glu Pro Leu Asp Gln Ala Ala Ser Ala		255
	260	265
Ser Ala Ile Asp Ile Ser Lys Trp Arg Thr Phe Gln Thr Ala Leu Phe		270
	275	280
Leu Asp Arg Leu Leu Asp Gly Ser Pro Leu Pro Gln Glu Val Val Met		285
	290	295
Ser Leu Ser Lys Cys Tyr Ser Ser Leu Leu Asp Ser Met Asn Ala Glu		300
	305	310
Ile Arg Ile Arg Trp Leu Gln Ile Val Val Arg Asn Asp Tyr Tyr Pro		315
	325	330
Asp Leu His Arg Val Arg Arg Phe Leu Glu Ser Gln Met Ser Arg Met		335
	340	345
Tyr Thr Ile Pro Leu Tyr Glu Asp Leu Cys Thr Gly Ala Leu Lys Ser		350
	355	360
Phe Ala Leu Glu Val Phe Tyr Gln Thr Gln Gly Arg Leu His Pro Asn		365
	370	375
Leu Arg Arg Ala Ile Gln Gln Ile Leu Ser Gln Gly Leu Gly Ser Ser		380
	385	390
Thr Glu Pro Ala Ser Glu Pro Ser Thr Glu Leu Gly Lys Ala Glu Ala		395
	405	410
Asp Thr Asp Ser Asp Ala Gln Ala Leu Leu Gly Asp Glu Ala Pro		415
	420	425
Ser Ser Ala Ile Ser Leu Arg Asp Val Asn Val Ser Ala		430
	435	440
		445

<210> 4129

<211> 1749

<212> DNA

<213> Homo sapiens

<400> 4129
ctgggaccag ctctgtctct tgcaccccg tccctgcctg gacacaggct cactcgctgc
60
cttcttcttg gggaaaccag cttcttgcca gccacagctg ctgcctccgc cactggccac
120
cgccctgtc ctgggagtc cttggcccaa acacccacct gacttagtgg ctctctgca
180
ggaaagggg ctgccccctg cgttctctca tccaatcatg agctggtgcc catcaccact
240
gagaatgcac cagagaatgt agtggaccag ggagcaggag cctcccgagg tggaaacaca
300
cgaaaaagcc tgcaggacaa cggctccacc agggtcaccc cgagtgtcca gccccacctc
360
cagcccatca gaaacatgag tgtgagccgg accatggagg acagctgtga gctggacctg
420
gtgtacgtca cagagaggat catcgctgtc tcttcccca gcacagccaa tgaggagaac
480
ttccggagca acctccgtga ggtggcgag atgctcaagt ccaaactgg aggcaactac
540
ctgctgttca acctctctga gcggagacct gacatcacga agctccatgc caaggtactg
600
gaatttggct ggcccgacct ccacacccca gccctggaga agatctgcag catctgtaag
660
gccatggaca catggctcaa tgcagacct cacaatgtcg ttgttctaca caacaaggga
720
aaccgaggca ggataggagt tgtcatcgcg gcttacatgc actacagcaa catttctgcc
780
agtgcggacc aggtctctga cgggtttgca atgaagcgg tctatgagga taagattgtg
840
cccattggcc agccatccca aagaaggtag gtgcattact tcagtggcct gctctccggc
900
tccatcaaaa tgaacaacaa gcccttggtt ctgcaccacg tgatcatgca cggcatcccc
960
aactttgagt ctaaaggagg atgtcggcca tttctccgca tctaccaggc catgcaacct
1020
gtgtacacat ctggcatcta caacatccca ggagacagcc agactagcgt ctgcatcacc
1080
atcgagccag gactgtctt gaaggagac atcttgctga agtgctacca caagaagttc
1140
cgaagcccag cccgagacgt catcttccgt gtgcagttcc acacctgtgc catccatgcc
1200
tggtgggttg tctttgggaa ggaggacct gatgatgctt tcaaagatga tcgatttcca
1260
gagtatggca aagtggagtt tgtattttct tatgggccag agaaaattca aggcattggg
1320
cacctggaga acgggcccag cgtgtctgtg gactataaca cctccgacct cctcatccgc
1380
tggtactcct acgacaactt cagtgggcat cgagatgacg gcatggagga ggtggtggga
1440
cacacgcagg ggccactaga tgggagcctg tatgctaagg tgaagaagaa agactccctg
1500
cacggcagca cgggggctgt taatgccaca cgtcctacac tgcggccac cccaaccac
1560

gtggaacaca cgctttctgt gagcagcgac tcgggcaact ccacagcctc caccaagacc
 1620
 gacaagaccg acgagcctgt ccccgggggcc tccagtgcc atgctgccc cactgtgacc
 1680
 atcctgggttt ggcaattcat cgtccaggat gtctgtctcc cgctcagatg ctaacgcccc
 1740
 accattgac
 1749

<210> 4130

<211> 523

<212> PRT

<213> Homo sapiens

<400> 4130

Leu	Ser	Gly	Ser	Ser	Ala	Gly	Lys	Gly	Ala	Ala	Pro	Cys	Val	Pro	Pro
1				5					10					15	
Ser	Asn	His	Glu	Leu	Val	Pro	Ile	Thr	Thr	Glu	Asn	Ala	Pro	Glu	Asn
			20					25					30		
Val	Val	Asp	Gln	Gly	Ala	Gly	Ala	Ser	Arg	Gly	Gly	Asn	Thr	Arg	Lys
		35				40						45			
Ser	Leu	Glu	Asp	Asn	Gly	Ser	Thr	Arg	Val	Thr	Pro	Ser	Val	Gln	Pro
	50				55					60					
His	Leu	Gln	Pro	Ile	Arg	Asn	Met	Ser	Val	Ser	Arg	Thr	Met	Glu	Asp
65				70						75				80	
Ser	Cys	Glu	Leu	Asp	Leu	Val	Tyr	Val	Thr	Glu	Arg	Ile	Ile	Ala	Val
			85					90						95	
Ser	Phe	Pro	Ser	Thr	Ala	Asn	Glu	Glu	Asn	Phe	Arg	Ser	Asn	Leu	Arg
		100					105						110		
Glu	Val	Ala	Gln	Met	Leu	Lys	Ser	Lys	His	Gly	Gly	Asn	Tyr	Leu	Leu
	115					120						125			
Phe	Asn	Leu	Ser	Glu	Arg	Arg	Pro	Asp	Ile	Thr	Lys	Leu	His	Ala	Lys
	130				135						140				
Val	Leu	Glu	Phe	Gly	Trp	Pro	Asp	Leu	His	Thr	Pro	Ala	Leu	Glu	Lys
145					150					155				160	
Ile	Cys	Ser	Ile	Cys	Lys	Ala	Met	Asp	Thr	Trp	Leu	Asn	Ala	Asp	Pro
			165					170						175	
His	Asn	Val	Val	Val	Leu	His	Asn	Lys	Gly	Asn	Arg	Gly	Arg	Ile	Gly
		180						185					190		
Val	Val	Ile	Ala	Ala	Tyr	Met	His	Tyr	Ser	Asn	Ile	Ser	Ala	Ser	Ala
	195					200						205			
Asp	Gln	Ala	Leu	Asp	Arg	Phe	Ala	Met	Lys	Arg	Phe	Tyr	Glu	Asp	Lys
	210				215						220				
Ile	Val	Pro	Ile	Gly	Gln	Pro	Ser	Gln	Arg	Arg	Tyr	Val	His	Tyr	Phe
225				230					235					240	
Ser	Gly	Leu	Leu	Ser	Gly	Ser	Ile	Lys	Met	Asn	Asn	Lys	Pro	Leu	Phe
			245						250					255	
Leu	His	His	Val	Ile	Met	His	Gly	Ile	Pro	Asn	Phe	Glu	Ser	Lys	Gly
	260						265						270		
Gly	Cys	Arg	Pro	Phe	Leu	Arg	Ile	Tyr	Gln	Ala	Met	Gln	Pro	Val	Tyr
	275					280					285				
Thr	Ser	Gly	Ile	Tyr	Asn	Ile	Pro	Gly	Asp	Ser	Gln	Thr	Ser	Val	Cys
	290				295						300				
Ile	Thr	Ile	Glu	Pro	Gly	Leu	Leu	Leu	Lys	Gly	Asp	Ile	Leu	Leu	Lys


```
<210> 4131
<211> 608
<212> DNA
<213> Homo sapiens
```

```

<400> 4131
cggccggcgc gggcgcggcg ggccgggcag gggcgagggg cgccgggtct tgccccagaa
60
gctgcgggca catccacgcc tgaaatgcgg cgctcagtc tggtcaggaa cccaggccac
120
aaaggcctga gaccgcgtta tgaagagctc gactctgact ccgaggacct agaccccaat
180
cctgaagatc tggacccggg ttctgaagac ccagagcctg atcctgaaga cctcaacact
240
gtcccgaag acgtggaccc cagctatgaa gatctggagc ccgtctcgga ggatctggac
300
cccgacgccg aagctccggg ctccggaaccc caagatcccg accccatgtc ttcgagtttc
360
gacctcgatc cagatgtgat tggccccgta ccctgatc tcgatcctaa cagcgacacc
420
ctcagccccg gcgatccaaa agtggacccc nnatctctc tggcctcact gcgagcccc
480
aggtcttggc caccagcccc gcggtgctcc ccgccccgc cagcccgccc cggcccttct
540
cctgcccgga ttgcggcgaa gccttcgcgc gcagctccgg gctgagccag catcgccgca
600

```

cgcacagc
608

<210> 4132
<211> 194
<212> PRT
<213> Homo sapiens

<400> 4132
Arg Pro Ala Arg Ala Arg Arg Ala Gly Gln Gly Arg Gly Ala Pro Gly
1 5 10 15
Leu Ala Pro Glu Ala Ala Gly Thr Ser Thr Pro Glu Met Arg Arg Ser
20 25 30
Val Leu Val Arg Asn Pro Gly His Lys Gly Leu Arg Pro Val Tyr Glu
35 40 45
Glu Leu Asp Ser Asp Ser Glu Asp Leu Asp Pro Asn Pro Glu Asp Leu
50 55 60
Asp Pro Val Ser Glu Asp Pro Glu Pro Asp Pro Glu Asp Leu Asn Thr
65 70 75 80
Val Pro Glu Asp Val Asp Pro Ser Tyr Glu Asp Leu Glu Pro Val Ser
85 90 95
Glu Asp Leu Asp Pro Asp Ala Glu Ala Pro Gly Ser Glu Pro Gln Asp
100 105 110
Pro Asp Pro Met Ser Ser Ser Phe Asp Leu Asp Pro Asp Val Ile Gly
115 120 125
Pro Val Pro Leu Ile Leu Asp Pro Asn Ser Asp Thr Leu Ser Pro Gly
130 135 140
Asp Pro Lys Val Asp Pro Xaa Ser Pro Leu Ala Ser Leu Arg Ala Pro
145 150 155 160
Arg Ser Trp Pro Pro Ala Pro Arg Cys Ser Pro Pro Pro Ala Arg
165 170 175
Pro Gly Pro Ser Pro Ala Arg Ile Ala Ala Lys Pro Ser Ala Ala Ala
180 185 190
Pro Gly

<210> 4133
<211> 1646
<212> DNA
<213> Homo sapiens

<400> 4133
tttttttttt tttttttttt tttttttttt tttttttttt ttaacgagtc tcaaattttt
60
attttgatgg caaaaatcac acagggaaga acaaaaatta tccatgacaa actaggagtg
120
gaaatgggct gggagacaca gaaaatgggt gccacagtt cctgggatcc ctctggaat
180
cctgggtttc cctcctagga ccttgcaagg taccctacgt gcctcctgga accccccccc
240
accccgagg tcccaaggaa ccagtttga gaaccaaggc tttaggccaa ggacttcctt
300
gcacaagaag gtgcagatgt acagggatgg ttcagacagt ggcctcaacc tcaatggctt
360

catcctcctc ctccagcagg ctgtaggaag catggctctg gcaaggccgc tgcagggggg
420
gggccaacag tttcgccatg cagttgtgca actccagggc tggcccagcc agtgccacct
480
catacttgta gctggtaccc ttggtatcca ggctgcccac gaaggcaaac atatccttcc
540
aactcatctc ctctccttc tctcagtg c cattgtggat gtaaacaacg tcaaagaaga
600
aatatgggca ctggaacatt ttcttcatgg gctccgtcaa ggagaactgg ggctggcaag
660
gtggacggct gtagacaagg atggtgcgga ccacatatgg cgggggaatc gtctgcacgt
720
tctctgtgac cggaagctca gtttctgct ggatgaggct gaaaagtcct tccagattga
780
aggtggaaca ggaggccgct tccagatcat agaggcagct acagagctcg cgggggtcgg
840
aggtcaggcc agacagccag gccgtgtcat cgttcaccac caccagtgc aactcgtggc
900
ttttgtcgat cttgtgtttt gtccgcacga acatctcaat catcttctgg gagacattga
960
gggctgtggg tttggagccg ttgaacgact ccagctttgg cagtgcacatt tcctctgaca
1020
ggtccaggca gataatcact ttctctggac agttgaccct tgggtgtccga atttggaact
1080
caggggctgg cgggggcacc tgccaggact tagggccggc tcctgaagtg ttgaggctcc
1140
catcatcagc actggcggcc tcaccctcac cctcgctgcg gctgcccacg ctggcctgtg
1200
cccctactgc ccggtcctca gccccttcag gattggagcg agtgcggggc cgaggctctg
1260
ccgagtgtc ctcttctctc tcctcctctt cagtggggct gctgggctct gccacttcca
1320
tggctcctgt gtggcttcgg ctaccgtag cctgaacctc cttctaaatc agccgccgac
1380
tcactaggaa gccgccatct ttacagccgg aagttgtacg gcgcagcccc gacgcctct
1440
gggaaatgta gttcagcggg ctgcagaaca agcagagaca gaaactggtt gaggctagaa
1500
agaacttgga aactgatagg ctgaaactgg gttgggggtg gggtttggag tgagagctgc
1560
ctggagctgg gtgcggcggg acctggaatg tgattggcta cactggagca aagtatgaaa
1620
tgtgattgga ttaaaaaaat tagtga
1646

<210> 4134

<211> 329

<212> PRT

<213> Homo sapiens

<400> 4134

Met Glu Val Ala Glu Pro Ser Ser Pro Thr Glu Glu Glu Glu Glu
1 5 10 15
Glu Glu His Ser Ala Glu Pro Arg Pro Arg Thr Arg Ser Asn Pro Glu

	20		25		30										
Gly	Ala	Glu	Asp	Arg	Ala	Val	Gly	Ala	Gln	Ala	Ser	Val	Gly	Ser	Arg
	35		40		45										
Ser	Glu	Gly	Glu	Gly	Glu	Ala	Ala	Ser	Ala	Asp	Asp	Gly	Ser	Leu	Asn
	50		55		60										
Thr	Ser	Gly	Ala	Gly	Pro	Lys	Ser	Trp	Gln	Val	Pro	Pro	Pro	Ala	Pro
65			70		75									80	
Glu	Val	Gln	Ile	Arg	Thr	Pro	Arg	Val	Asn	Cys	Pro	Glu	Lys	Val	Ile
			85		90								95		
Ile	Cys	Leu	Asp	Leu	Ser	Glu	Glu	Met	Ser	Leu	Pro	Lys	Leu	Glu	Ser
	100		105		110										
Phe	Asn	Gly	Ser	Lys	Thr	Asn	Ala	Leu	Asn	Val	Ser	Gln	Lys	Met	Ile
	115		120		125										
Glu	Met	Phe	Val	Arg	Thr	Lys	His	Lys	Ile	Asp	Lys	Ser	His	Glu	Phe
	130		135		140										
Ala	Leu	Val	Val	Val	Asn	Asp	Asp	Thr	Ala	Trp	Leu	Ser	Gly	Leu	Thr
145			150		155									160	
Ser	Asp	Pro	Arg	Glu	Leu	Cys	Ser	Cys	Leu	Tyr	Asp	Leu	Glu	Thr	Ala
			165		170									175	
Ser	Cys	Ser	Thr	Phe	Asn	Leu	Glu	Gly	Leu	Phe	Ser	Leu	Ile	Gln	Gln
	180		185		190										
Lys	Thr	Glu	Leu	Pro	Val	Thr	Glu	Asn	Val	Gln	Thr	Ile	Pro	Pro	Pro
	195		200		205										
Tyr	Val	Val	Arg	Thr	Ile	Leu	Val	Tyr	Ser	Arg	Pro	Pro	Cys	Gln	Pro
	210		215		220										
Gln	Phe	Ser	Leu	Thr	Glu	Pro	Met	Lys	Lys	Met	Phe	Gln	Cys	Pro	Tyr
225			230		235									240	
Phe	Phe	Phe	Asp	Val	Val	Tyr	Ile	His	Asn	Gly	Thr	Glu	Glu	Lys	Glu
			245		250									255	
Glu	Glu	Met	Ser	Trp	Lys	Asp	Met	Phe	Ala	Phe	Met	Gly	Ser	Leu	Asp
	260		265		270										
Thr	Lys	Gly	Thr	Ser	Tyr	Lys	Tyr	Glu	Val	Ala	Leu	Ala	Gly	Pro	Ala
	275		280		285										
Leu	Glu	Leu	His	Asn	Cys	Met	Ala	Lys	Leu	Leu	Ala	His	Pro	Leu	Gln
	290		295		300										
Arg	Pro	Cys	Gln	Ser	His	Ala	Ser	Tyr	Ser	Leu	Leu	Glu	Glu	Glu	Asp
305			310		315									320	
Glu	Ala	Ile	Glu	Val	Glu	Ala	Thr	Val							
			325												

<210> 4135

<211> 388

<212> DNA

<213> Homo sapiens

<400> 4135

acgcgtgggtg gccctggaca tgtacctcac tcagcaacgc atctccgacc cagtgatgga
60
gggtctgcga tcagccgtac gctatgacaa aacctatttc gacaagatcg tggccagcct
120
tctgccattg ctggaaaaac tgaccacagg ccggattgca gagctgctat ctcccgacta
180
catggatctt gaggaccacac gaccaatctt tgactggatg cagatcatcc gcaaacgggc
240

agtggctctat gtcggcctgg acgctttatc tgatacagag gtagctgcag cgggtgggcaa
 300
 ctcatgtgtc agcgacctgg tgtcagttgc gggcacatc tataagtttg gcatcgatga
 360
 tggcttgccc ggggccaccg gcggcaag
 388

<210> 4136

<211> 123

<212> PRT

<213> Homo sapiens

<400> 4136

Met	Tyr	Leu	Thr	Gln	Gln	Arg	Ile	Ser	Asp	Pro	Val	Met	Glu	Gly	Leu
1				5					10					15	
Arg	Ser	Ala	Val	Arg	Tyr	Asp	Lys	Thr	Tyr	Phe	Asp	Lys	Ile	Val	Ala
			20					25					30		
Ser	Leu	Leu	Pro	Leu	Leu	Glu	Lys	Leu	Thr	Thr	Gly	Arg	Ile	Ala	Glu
			35				40					45			
Leu	Leu	Ser	Pro	Asp	Tyr	Met	Asp	Leu	Glu	Asp	Pro	Arg	Pro	Ile	Phe
			50				55				60				
Asp	Trp	Met	Gln	Ile	Ile	Arg	Lys	Arg	Ala	Val	Val	Tyr	Val	Gly	Leu
65				70						75				80	
Asp	Ala	Leu	Ser	Asp	Thr	Glu	Val	Ala	Ala	Ala	Val	Gly	Asn	Ser	Met
			85						90				95		
Phe	Ser	Asp	Leu	Val	Ser	Val	Ala	Gly	His	Ile	Tyr	Lys	Phe	Gly	Ile
			100					105					110		
Asp	Asp	Gly	Leu	Pro	Gly	Ala	Thr	Gly	Gly	Lys					
			115				120								

<210> 4137

<211> 2255

<212> DNA

<213> Homo sapiens

<400> 4137

cggacctccc gcgcgccccg caccgaccg gctcagccgc cggcagcgta acacgcccta
 60
 cgctcgcttg ctgcgcggcc tcagggcagg caggcgggcg cgggagacct cgccggggcc
 120
 gagacttggg gcgggcgacg aggaccaggt tacggcctcc tcgccatgtc ctcggcctgc
 180
 gacgcgggcg accactaccc cctgcacctc ctagtctgga aaaacgacta ccggcagctc
 240
 gagaaggagc tgcaggggcca gaatgtggag gctgtggacc cacgaggctc aacattattg
 300
 catcttgctg tttccttggg acatttggaa tctgctcgag tcttactccg acataaagca
 360
 gatgtgacaa aagaaaatcg ccagggatgg acagttttac atgaggctgt gagcactggc
 420
 gatcctgaga tgggtgtacac agttctccaa catcgagact accacaacac atccatggcc
 480
 cttgagggag ttcctgagct gtcctcaaaa attctcgagg ctccggattt ctatgtgcag
 540

atgaaatggg aattcaccag ctgggtgccc ttggtttcta gaatatgcc aaatgatgtc
600
tgtcgcatct ggaaaagtgg tgccaaactg cgcgtcgata tcacattgct gggatttgaa
660
aacatgagct ggataagagg gaggcgtagt tttatattta agggagaaga caactgggag
720
gagttaatgg aagtcaacca tgatgacaaa gtggtcacca ccgaacgctt cgacctttcc
780
caagaaatgg agcgctcac tctggacttg atgaagccaa aaagcaggga agttgagcgg
840
cggtcacaa gccctgtcat taacaccagc ctcgatacta aaaatatgct ttttgaaaga
900
actaaatccg gattctgggg ctggaggaca gataaagcag aagttgttaa tggttacgaa
960
gcaaagggtt acacagtaaa caatgtgaat gtgatcacca aaatacgcac agaacatctg
1020
accgaggagg aaaaaagag atataaagca gacaggaacc cgctggaatc tttgctggga
1080
actgtggaac accaatttgg tgcacaaggg gacctcacca cggaatgtgc tactgcaaac
1140
aaccacacag ccacacgccc tgatgagtac ttcaatgaag agtttgatct gnaaagacag
1200
ggacattggn aaggccgaaa gagctgacga ttagaacaca gaagtttaaa gcaatgttgt
1260
ggatgtgtga agagtttccc ctctctctgg tggagcaggt cattcccatc attgacctaa
1320
tggctcgaac gagtgcctcat tttgcaagac tgagagattt catcaaattg gaattccac
1380
ctggatttcc tgtcaaaata gaaattccct tgtttcatgt cttaaagca cggattacat
1440
ttggaaatgt taatggctgt agcactgccg aagaatctgt atctcaaat gtggaaggga
1500
cccaggctga ttcagcttcc cacatcacia actttgaggt tgatcaatct gtgtttgaaa
1560
ttcccgaatc ttactatgtt caagacaatg gcagaaatgt gcatttgcaa gatgaagatt
1620
acgagataat gcagtttgcc atccagcaaa gtctgctgga gtccagcagg agccaggaac
1680
tttcaggacc agcttcgaat ggagggatca gccagacaaa cacctatgac gccagtatg
1740
agagggccat ccaggagagc ctctcacca gcacagaagg cctgtgcccc agcgccctga
1800
gcgagacaag ccgttttgat aatgacttgc agctagccat ggagctctct gccaaagagc
1860
tggaggaatg ggagctccgg ctccaggagg aagaggctga gctccagcaa gtcttacagc
1920
tgtcactcac tgacaaatag acctttcagc ctgtgagcct ctgcacaaag cagaggctgt
1980
gggctgtcac agatgtgtg tcaaccaggg ccctagggt aaggccctgc acctgctgtg
2040
catgcagcag gcaacaactg ccccttcttt atgcagaggt gcagaaccag ggactcctgg
2100
gcccatccag gctgtccctt ggggtggaga agggaccagg gattgcaggc cccatctcca
2160

ggctaagggg aggagagcat catcactttc cattagctgt attggcttgc aggtcacatt
 2220
 tttactgccca gcattagaca aaacccaat ccccg
 2255

<210> 4138
 <211> 353
 <212> PRT
 <213> Homo sapiens

<400> 4138

Met	Ser	Ser	Ala	Cys	Asp	Ala	Gly	Asp	His	Tyr	Pro	Leu	His	Leu	Leu
1				5					10					15	
Val	Trp	Lys	Asn	Asp	Tyr	Arg	Gln	Leu	Glu	Lys	Glu	Leu	Gln	Gly	Gln
			20					25					30		
Asn	Val	Glu	Ala	Val	Asp	Pro	Arg	Gly	Arg	Thr	Leu	Leu	His	Leu	Ala
			35				40					45			
Val	Ser	Leu	Gly	His	Leu	Glu	Ser	Ala	Arg	Val	Leu	Leu	Arg	His	Lys
					55						60				
Ala	Asp	Val	Thr	Lys	Glu	Asn	Arg	Gln	Gly	Trp	Thr	Val	Leu	His	Glu
65					70					75				80	
Ala	Val	Ser	Thr	Gly	Asp	Pro	Glu	Met	Val	Tyr	Thr	Val	Leu	Gln	His
				85					90					95	
Arg	Asp	Tyr	His	Asn	Thr	Ser	Met	Ala	Leu	Glu	Gly	Val	Pro	Glu	Leu
			100					105					110		
Leu	Gln	Lys	Ile	Leu	Glu	Ala	Pro	Asp	Phe	Tyr	Val	Gln	Met	Lys	Trp
			115				120					125			
Glu	Phe	Thr	Ser	Trp	Val	Pro	Leu	Val	Ser	Arg	Ile	Cys	Pro	Asn	Asp
			130				135					140			
Val	Cys	Arg	Ile	Trp	Lys	Ser	Gly	Ala	Lys	Leu	Arg	Val	Asp	Ile	Thr
145					150					155				160	
Leu	Leu	Gly	Phe	Glu	Asn	Met	Ser	Trp	Ile	Arg	Gly	Arg	Arg	Ser	Phe
			165					170					175		
Ile	Phe	Lys	Gly	Glu	Asp	Asn	Trp	Ala	Glu	Leu	Met	Glu	Val	Asn	His
			180					185					190		
Asp	Asp	Lys	Val	Val	Thr	Thr	Glu	Arg	Phe	Asp	Leu	Ser	Gln	Glu	Met
			195				200					205			
Glu	Arg	Leu	Thr	Leu	Asp	Leu	Met	Lys	Pro	Lys	Ser	Arg	Glu	Val	Glu
			210			215					220				
Arg	Arg	Leu	Thr	Ser	Pro	Val	Ile	Asn	Thr	Ser	Leu	Asp	Thr	Lys	Asn
225					230					235				240	
Ile	Ala	Phe	Glu	Arg	Thr	Lys	Ser	Gly	Phe	Trp	Gly	Trp	Arg	Thr	Asp
			245						250					255	
Lys	Ala	Glu	Val	Val	Asn	Gly	Tyr	Glu	Ala	Lys	Val	Tyr	Thr	Val	Asn
			260					265					270		
Asn	Val	Asn	Val	Ile	Thr	Lys	Ile	Arg	Thr	Glu	His	Leu	Thr	Glu	Glu
			275				280					285			
Glu	Lys	Lys	Arg	Tyr	Lys	Ala	Asp	Arg	Asn	Pro	Leu	Glu	Ser	Leu	Leu
			290			295					300				
Gly	Thr	Val	Glu	His	Gln	Phe	Gly	Ala	Gln	Gly	Asp	Leu	Thr	Thr	Glu
305					310					315				320	
Cys	Ala	Thr	Ala	Asn	Asn	Pro	Thr	Ala	Ile	Thr	Pro	Asp	Glu	Tyr	Phe
				325					330				335		
Asn	Glu	Glu	Phe	Asp	Leu	Xaa	Arg	Gln	Gly	His	Trp	Xaa	Gly	Arg	Lys

340 345 350
 Ser

 <210> 4139
 <211> 431
 <212> DNA
 <213> Homo sapiens

 <400> 4139
 acgcgtgtcc cccgcccctc gcagaggact gtctcccgt cagggcctct ctgcctcccc
 60
 gagtccaggg ccctcctgag cgccagcccg gaggtggttg tcgcagtggg attccctggg
 120
 ggtaagtgtc ctgttcctgt gcgcgtgccc tgagccccgc ctgggtccta ggccaccac
 180
 cgacactgcc cccacacag ccgggaagtc cacccttctc aagaagcacc tcgtgtcggc
 240
 cggatatgtc cactgaaca gggatatgacc aggccttttg cgcccaaat ctattataaa
 300
 gttcccatct ccacctctca actggtttgg ggcggtttc ctccatcatt gcctccccgt
 360
 ccccgctcgg ggtctctctc cccctggggc ctgccgatct gtttgtgacc tctcgtgtcc
 420
 ccaggacacg c
 431

 <210> 4140
 <211> 50
 <212> PRT
 <213> Homo sapiens

 <400> 4140
 Thr Arg Val Pro Arg Pro Ser Gln Arg Thr Val Ser Arg Ser Gly Pro
 1 5 10 15
 Leu Cys Leu Pro Glu Ser Arg Ala Leu Leu Ser Ala Ser Pro Glu Val
 20 25 30
 Val Val Ala Val Gly Phe Pro Gly Gly Lys Cys Pro Val Pro Val Arg
 35 40 45
 Val Pro
 50

 <210> 4141
 <211> 1182
 <212> DNA
 <213> Homo sapiens

 <400> 4141
 nnaccagctc cgcgcctcgg cctctccgcc ccctccccag cctttctctc gccctcttct
 60
 cccacaactcc cggccggcgc ctcggtttg tcgcaggaga tgggttagcc ccctggccgc
 120
 cgaaggagga gccggacact tgtctcccgt ctccgagctg ctccccaccc ctggaggaga
 180

gacccccccc tcggtcggc gccttctgcg tctcccggt ggtggggaag cctctgcgcc
 240
 gccggcacca tgagtgaaca gagtatctgt caggcaagag ctgctgtgat ggtttatgat
 300
 gatgccaata agaagtgggt gccagctggt ggctcaactg gattcagcag agttcatatc
 360
 tatcaccata caggcaacaa cacattcaga gtgggtgggca ggaagattca ggaccatcag
 420
 gtcgtgataa actgtgccat tcctaaaggg ttgaagtaca atcaagctac acagaccttc
 480
 caccagtggc gagatgctag acaggtgtat ggtctcaact ttggcagcaa agaggatgcc
 540
 aatgtcttcg caagtgccat gatgcatgcc ttagaagtgt taaattcaca ggaaacaggg
 600
 ccaacattgc ctagacaaaa ctcacaacta cctgctcaag ttcaaaatgg cccatcccaa
 660
 gaagaattgg aaattcaaaag aagacaacta caagaacagc aacggcaaaa ggagctggag
 720
 cgggaaagggc tggagcgaga aagaatggaa agagaaaggt tggagagaga gaggttagaa
 780
 agggaaagggc tggagagggga gcgactggaa caagaacagc tggagagaga gagacaagaa
 840
 cgggaaacggc aggaacgcct ggagcggcag gaacgcctgg agcggcagga acgcctggag
 900
 cggcaggaac gcctggatcg ggagagggaa agacaagaac gagagaggct ggagagactg
 960
 gaacgggaga ggcaagaaag ggagcgacaa gagcagttag aaagggaaaca gctggaatgg
 1020
 gagagagagc gcagaatata aagtgtgctt gcccctgcct ctgttgagac tcctctaaac
 1080
 tctgtgctgg gagactcttc tgcttctgag ccaggcttgc aggcagcctc tcagccggcc
 1140
 gagactccat cccaacaggg cattgtcttg ggaccacttg ca
 1182

<210> 4142

<211> 311

<212> PRT

<213> Homo sapiens

<400> 4142

Met	Ser	Glu	Gln	Ser	Ile	Cys	Gln	Ala	Arg	Ala	Ala	Val	Met	Val	Tyr
1				5				10					15		
Asp	Asp	Ala	Asn	Lys	Lys	Trp	Val	Pro	Ala	Gly	Gly	Ser	Thr	Gly	Phe
		20						25					30		
Ser	Arg	Val	His	Ile	Tyr	His	His	Thr	Gly	Asn	Asn	Thr	Phe	Arg	Val
		35				40					45				
Val	Gly	Arg	Lys	Ile	Gln	Asp	His	Gln	Val	Val	Ile	Asn	Cys	Ala	Ile
	50				55			60							
Pro	Lys	Gly	Leu	Lys	Tyr	Asn	Gln	Ala	Thr	Gln	Thr	Phe	His	Gln	Trp
65				70				75					80		
Arg	Asp	Ala	Arg	Gln	Val	Tyr	Gly	Leu	Asn	Phe	Gly	Ser	Lys	Glu	Asp
			85					90					95		
Ala	Asn	Val	Phe	Ala	Ser	Ala	Met	Met	His	Ala	Leu	Glu	Val	Leu	Asn

```
<210> 4143
<211> 1773
<212> DNA
<213> Homo sapiens
```

3328

tgccgtggga gggaatggtg gggagtcagg gtggctgggg ggcactaggg cacttcacca
 660
 agagggatgc acctcccagg aagcagtagc agtgagagcg agccccacag gaactgtccc
 720
 tgccctggca gtgcgcaccc tgtgggcacc aagcagggag tgaagaccct cagaacacag
 780
 ccctgtctcc ggctgtgacc tcagcttgct ggagactctg cggtcagcct ggc'ccactag
 840
 gagccccctgc tgctccactt gcaggacacc caggcctcct ggcgtcagtg gggcctggga
 900
 cgtctgggag ttccagagct gggtcagcag ctgtgaccat gggggccagc acagtggaca
 960
 gcatcagagc tggcagtga aagctgagggc gggggaggcc tgatagagag gttcagtccc
 1020
 aaatgtctgt ctcaagggg accaggtggt aatatgacag gttggtgacg taggctgctg
 1080
 ggtcgtcccc gtctccagc tctgagggaa actcactgcc attctcaa ataatgctctg
 1140
 ttgggtccac gccagctgc tggctctctt catttggtat actgtggtca ataactattg
 1200
 tttcggattt tgctaaacaa aatccattgg acctcatgat ttctgatatt ttgactggac
 1260
 tttgaaagct gggttgaatt ttatgcacat tatcattttt taacacctga tccagaggag
 1320
 atctttcgaa gaaggtgagc acaacttccg atctagaata ttacagggc atgcttatga
 1380
 tcgtcttcag cagcttctcc acctcattaa gcctgggtctc tatgtcgtgg gcttcttcta
 1440
 tggcaaccag tccttgccgc agcgccccct gcgccagttc ggaccggtcc tcgggaaagg
 1500
 cgtcgcgcag gcgctgccac aggcggccca ggtccgccag gctgcggtgc aggtagagca
 1560
 cgctgcggtc cgaccactcc gtgcggatct cgaagaactc ctcttcgtcg ccgcgcgggc
 1620
 tgacgatgag cctgcggatg ccgttcaccc agcagccgcg cacgaacatg ttcacgagcg
 1680
 acgtgccctc aaacaccgcc gagggcatgt cgcacgcatg ccccgccaa gggctcccca
 1740
 gccccgccgc ccgccgccgc gcaggaggcg cgc
 1773

<210> 4144

<211> 231

<212> PRT

<213> Homo sapiens

<400> 4144

Met	Ala	Ser	Ala	Val	Phe	Glu	Gly	Thr	Ser	Leu	Val	Asn	Met	Phe	Val
1				5				10				15			
Arg	Gly	Cys	Trp	Val	Asn	Gly	Ile	Arg	Arg	Leu	Ile	Val	Ser	Arg	Arg
		20					25				30				
Gly	Asp	Glu	Glu	Glu	Phe	Phe	Glu	Ile	Arg	Thr	Glu	Trp	Ser	Asp	Arg
		35					40				45				
Ser	Val	Leu	Tyr	Leu	His	Arg	Ser	Leu	Ala	Asp	Leu	Gly	Arg	Leu	Trp

50 55 60
 Gln Arg Leu Arg Asp Ala Phe Pro Glu Asp Arg Ser Glu Leu Ala Gln
 65 70 75 80
 Gly Pro Leu Arg Gln Gly Leu Val Ala Ile Lys Glu Ala His Asp Ile
 85 90 95
 Glu Thr Arg Leu Asn Glu Val Glu Lys Leu Leu Lys Thr Ile Ile Ser
 100 105 110
 Met Pro Cys Lys Tyr Ser Arg Ser Glu Val Val Leu Thr Phe Phe Glu
 115 120 125
 Arg Ser Pro Leu Asp Gln Val Leu Lys Asn Asp Asn Val His Lys Ile
 130 135 140
 Gln Pro Ser Phe Gln Ser Pro Val Lys Ile Ser Glu Ile Met Arg Ser
 145 150 155 160
 Asn Gly Phe Cys Leu Ala Asn Thr Glu Thr Ile Val Ile Asp His Ser
 165 170 175
 Ile Pro Asn Gly Arg Asp Gln Gln Leu Gly Val Asp Pro Thr Glu His
 180 185 190
 Leu Phe Glu Asn Gly Ser Glu Phe Pro Ser Glu Leu Glu Asp Gly Asp
 195 200 205
 Asp Pro Ala Ala Tyr Val Thr Asn Leu Ser Tyr Tyr His Leu Val Pro
 210 215 220
 Phe Glu Thr Asp Ile Trp Asp
 225 230

<210> 4145

<211> 400

<212> DNA

<213> Homo sapiens

<400> 4145

nnaacccttg agatgctggc tggagaccct ctactctcag aagaccaga acctgacaag
 60
 acccctgcag ccactgttac caacgaagcc agctgttga gcggccctc cccagagggt
 120
 cctgtacccc tcacagggga ggaactggac ttgcggctca ttcggacaaa ggggggtgtg
 180
 gacgcagccc tggaatatgc caagacctgg agccgctatg ccaaggaact gcttgacctg
 240
 actgaaaaga gagccagcta tgagctggag tttgctaaga gcaccatgaa gatcgctgaa
 300
 gctggcaagg tgtccattca acagcagagc cacatgcctc tgcagtacat ctacaccctg
 360
 tttctggagc acgatctcag cctgggaacc ctggccatgg
 400

<210> 4146

<211> 133

<212> PRT

<213> Homo sapiens

<400> 4146

Xaa Thr Leu Glu Met Leu Ala Gly Asp Pro Leu Leu Ser Glu Asp Pro
 1 5 10 15
 Glu Pro Asp Lys Thr Pro Ala Ala Thr Val Thr Asn Glu Ala Ser Cys

	20		25		30										
Trp	Ser	Gly	Pro	Ser	Pro	Glu	Gly	Pro	Val	Pro	Leu	Thr	Gly	Glu	Glu
	35		40		45										
Leu	Asp	Leu	Arg	Leu	Ile	Arg	Thr	Lys	Gly	Gly	Val	Asp	Ala	Ala	Leu
	50		55		60										
Glu	Tyr	Ala	Lys	Thr	Trp	Ser	Arg	Tyr	Ala	Lys	Glu	Leu	Leu	Ala	Trp
65				70				75						80	
Thr	Glu	Lys	Arg	Ala	Ser	Tyr	Glu	Leu	Glu	Phe	Ala	Lys	Ser	Thr	Met
			85					90						95	
Lys	Ile	Ala	Glu	Ala	Gly	Lys	Val	Ser	Ile	Gln	Gln	Gln	Ser	His	Met
	100							105					110		
Pro	Leu	Gln	Tyr	Ile	Tyr	Thr	Leu	Phe	Leu	Glu	His	Asp	Leu	Ser	Leu
	115						120					125			
Gly	Thr	Leu	Ala	Met											
	130														

<210> 4147

<211> 4892

<212> DNA

<213> Homo sapiens

<400> 4147

nnaaatgtag agaagcagcc gataaaatag cattgcctga agaagtttgg aggctgagag
 60
 cagcagtaga ctggccaact gcagagcaag ttgtttctcc agccgtgagg tgcagcctca
 120
 tgccccaac ccagcttagc cactgtaaga agacgttcac tgtacagacg accaaaacttg
 180
 ccgtggaaga gacagttgtg agattccctt gcaaatttac atacgagaat ggcttgtgaa
 240
 atcatgcctc tgcaaagttc acaggaagat gaaagacctc tgtcaccttt ctatttgagt
 300
 gctcatgtac cccaagtcag caatgtgtct gcaaccggag aactcttaga aagaaccatc
 360
 cgatcagctg tagaacaaca tctttttgat gttaataact ctggagggtca aagttcagag
 420
 gactcagaat ctggaacact atcagcatct tctgccacat ctgccagaca gcgccgcgcg
 480
 cagtccaagg agcaggatga agttcgacat gggagagaca agggacttat caacaaagaa
 540
 aataactcctt ctgggttcaa ccaccttgat gattgtattt tgaataactca ggaagtcgaa
 600
 aaggtagaca aaaataacttt tggttgtgct ggagaaagga gcaagcctaa acgtcagaaa
 660
 tccagtacta aactttctga gttcatgac aatcaggacg gtcttgtgaa tatggaaagt
 720
 ctcaattcca cacgatctca tgagagaact ggacctgatg attttgaatg gatgtctgat
 780
 gaaaggaaaag gaaatgaaaa agatggtgga cacactcagc attttgagag cccacaatg
 840
 aagatccagg agcatcccag cctatctgac accaaacagc agagaaatca agatgccggg
 900
 gaccaggagg agagctttgt ctccgaagtg cccagtcgg acctgactgc attgtgtgat
 960

gaaaagaact gggaagagcc tatccctgct ttctctctct ggacagcgga gaacagtgc
1020
tctgatgaag ccacacctc gccgcaggct gggcgctga tccgtcagct gctggacgaa
1080
gacagcgacc ccattgctctc tctcgggtc tacgcttatg ggacagcgag gcaatacctg
1140
gatgacacag aagtgcctcc tccccacca aactccatt ctttcatgag gcggcgaagc
1200
tcctctctgg ggtcctatga tgatgagcaa gaggacctga cacctgcca gctcacacga
1260
aggattcaga gccttaaaaa gaagatccgg aagtttgaag atagattcga agaagagaag
1320
aagtacagac cttccacag tgacaaagca gccaatccgg aggttctgaa atggacaaat
1380
gaccttgcca aattccggag acaacttaaa gaatcaaac taaagatatc tgaaggagc
1440
ctaactcca ggatgcggca gcgaagcaac aactccca agagttttgg tcccaactt
1500
gagaagaag atgagaagaa gcaagagctg gtggataaag caataaagcc cagtgttgaa
1560
gccacattgg aatctattca gaggaagctc caggagaagc gagcggaag cagccgcct
1620
gaggacatta aggatatgac caaagaccag attgctaatt agaaagtggc tctgcagaaa
1680
gctctgttat attatgaaag cattcatgga cgccggtaa caaagaacga acggcaggtg
1740
atgaagccac tatacgacag gtaccggctg gtcaaacaga tctctccc agctaacacc
1800
ataccatca ttggttcccc ctccagcaag cggagaagcc ctttgctgca gccattatc
1860
gaggcgaaa ctgcttctt cttcaaggag ataaaggaag aagaggagg gtcagaagac
1920
gatagcaatg tgaagccaga cttcatggc actctgaaa ccgatttcag tgcacgatgc
1980
tttctggacc aattcgaaga tgacgtgat ggatttattt cccaatgga tgataaata
2040
ccatcaaat gcagccagga cacagggtt tcaaatctc atgctgctc aatacctgaa
2100
ctcctggaac acctccagga aatgagagaa gaaaagaaa ggattcgaaa gaaacttcgg
2160
gattttgaag acaactttt cagacagaat ggaagaaatg tccagaagga agaccgact
2220
cctatggctg aagaatacag tgaatataag cacataaagg cgaaactgag gtcctggag
2280
gtgctcatca gcaagagaga cactgattcc aagtccatgt gaggggcatg gccaaagcaca
2340
gggggctggc agctgggtg agagtttact gtcccagag aaagtgcagc tctggaaggc
2400
agccttggg ctggccctgc aaagcatgca gcccttctgc ctctagacca tttggcatcg
2460
gtcctgttt ccattgctg ccttagaaac tggctggaag aagacaatgt gacctgactt
2520
aggcattttg taattgaaa gtcaagactg cagtatgtgc acatgcgcac gcgcatgcac
2580

gcacacacac acacagtagt ggagctttcc taacactagc agagattaat cactacatta
2640
gacaacactc atctacagag aatatacact gttcttccct ggataactga gaaacaagag
2700
accattctct gtctaactgt gataaaaaca agctcaggac tttattctat agagcaaaact
2760
tgctgtggag ggccatgctc tccttggaac cagttaactg caaacgtgca ttggagccct
2820
atttgctgcc gctgccattc tagtgacctt tccacagagc tgcgccttcc tcacgtgtgt
2880
gaaagggttt ccccttcagc cctcaggtag atggaagctg catctgcccc cgatggcagt
2940
gcagtcatca tcttcaggat gtttcttcag gacttcctca gctgacaagg aattttggtc
3000
cctgcctagg accgggtcat ctgcagagga cagagagatg gtaagcagct gtatgaatgc
3060
tgattttaaa accaggtcat gggagaagag cctggagatt ctttcctgaa cactgactgc
3120
acttaccagt ctgattttat cgtcaaacac caagccaggc tagcatgctc atggcaatct
3180
gtttggggct gttttgttgt ggcactagcc aaacataaag gggcttaagt cagcctgcat
3240
acagaggatc ggggagagaa ggggcctgtg ttctcagcct cctgagtact taccagagtt
3300
taattttttt aaaaaaatc tgcactaaaa tcccaaact gacaggtaaa tgtagccctc
3360
agagctcagc ccaaggcaga atctaaatca cactattttc gagatcatgt ataaaaagaa
3420
aaaaaagaag tcatgctgtg tggccaatta taattttttt caaagacttt gtcacaaaac
3480
tgtctatatt agacattttg gagggaccag gaaatgtaag acaccaaact ctccatctct
3540
tcagtgtgcc tgatgtcacc tcatgatttg ctgttacttt tttaactcct gcgccaagga
3600
cagtgggttc tgtgtccacc tttgtgcttt gcgaggccga gccagggcat ctgctcgctc
3660
gccacggctg accagagaag gtgcttcagg agctctgcct tagacgacgt gttacagtat
3720
gaacacacag cagaggcacc ctcgtatgtt ttgaaagttg ccttctgaaa gggcacagtt
3780
ttaaggaaaa gaaaaagaat gtaaaactat actgaccctt ttccagtttt aaagggctgt
3840
gagaaaactg ctggtccaat gggatttaca gcaacatttt ccattgctga agtgaggtag
3900
cagctctctt ctgtcagctg aatgttaagg atggggaaaa agaatgcctt taagtttgct
3960
cttaatcgta tggaagcttg agctatgtgt tggaagtgcc ctgggtttta tccatacaca
4020
aagacggtag ataactctac aggtttaaat gtacataaaa atatagtttg gaattctttg
4080
ctctactgtt tacattgcag attgctataa tttcaaggag tgagattata aataaaatga
4140
tgcactttag gatgtttcct atttttgaaa tctgaacatg aatcattcac atgacaaaaa
4200

attgtgtttt tttaaaaata catgtctagt ctgtccttta atagctctct taaataagct
 4260
 atgatattaa tcagatcatt accagtttagc ttttaaagca catttgttta agactatggt
 4320
 tttggaaaaa tacgctacag aatttttttt taagctacaa ataaatgaga tgctactaat
 4380
 tgttttggaa tctgttggtt ctgccaaagg taaattaact aaagatttat tcaggaatcc
 4440
 ccatttgaat ttgtatgatt caataaaaga aaacaccaag taagttatat aaaataaatt
 4500
 gtgtatgaga tgttgtgttt tcctttgtaa tttccactaa ctaactaact aacttatatt
 4560
 cttcatggaa tggagcccag aagaaatgag aggaagccct tttcacacta gatcttattt
 4620
 gaagaaatgt ttgttagtca gtcagtcagt ggtttctggc tctgccgagg gagatgtggt
 4680
 cccagcaac catttctgca gccagaatc tcaaggcact agaggcgggtg tcttaattaa
 4740
 ttggcttcac aaagacaaaa tgctctggac tgggattttt cctttgctgt gttgggaata
 4800
 tgtgtttatt aattagcaca tgccaacaaa ataaatgtca agagttattt cataagtgt
 4860
 agtaaaactta agaatcnaag agtgccgact ta
 4892

<210> 4148

<211> 697

<212> PRT

<213> Homo sapiens

<400> 4148

Met	Ala	Cys	Glu	Ile	Met	Pro	Leu	Gln	Ser	Ser	Gln	Glu	Asp	Glu	Arg
1				5				10					15		
Pro	Leu	Ser	Pro	Phe	Tyr	Leu	Ser	Ala	His	Val	Pro	Gln	Val	Ser	Asn
			20					25					30		
Val	Ser	Ala	Thr	Gly	Glu	Leu	Leu	Glu	Arg	Thr	Ile	Arg	Ser	Ala	Val
			35					40					45		
Glu	Gln	His	Leu	Phe	Asp	Val	Asn	Asn	Ser	Gly	Gly	Gln	Ser	Ser	Glu
			50				55				60				
Asp	Ser	Glu	Ser	Gly	Thr	Leu	Ser	Ala	Ser	Ser	Ala	Thr	Ser	Ala	Arg
					70					75				80	
Gln	Arg	Arg	Arg	Gln	Ser	Lys	Glu	Gln	Asp	Glu	Val	Arg	His	Gly	Arg
				85					90					95	
Asp	Lys	Gly	Leu	Ile	Asn	Lys	Glu	Asn	Thr	Pro	Ser	Gly	Phe	Asn	His
			100					105					110		
Leu	Asp	Asp	Cys	Ile	Leu	Asn	Thr	Gln	Glu	Val	Glu	Lys	Val	His	Lys
			115				120						125		
Asn	Thr	Phe	Gly	Cys	Ala	Gly	Glu	Arg	Ser	Lys	Pro	Lys	Arg	Gln	Lys
			130			135					140				
Ser	Ser	Thr	Lys	Leu	Ser	Glu	Leu	His	Asp	Asn	Gln	Asp	Gly	Leu	Val
				145		150				155				160	
Asn	Met	Glu	Ser	Leu	Asn	Ser	Thr	Arg	Ser	His	Glu	Arg	Thr	Gly	Pro
				165				170						175	
Asp	Asp	Phe	Glu	Trp	Met	Ser	Asp	Glu	Arg	Lys	Gly	Asn	Glu	Lys	Asp

180										185				190			
Gly	Gly	His	Thr	Gln	His	Phe	Glu	Ser	Pro	Thr	Met	Lys	Ile	Gln	Glu		
		195					200					205					
His	Pro	Ser	Leu	Ser	Asp	Thr	Lys	Gln	Gln	Arg	Asn	Gln	Asp	Ala	Gly		
	210					215					220						
Asp	Gln	Glu	Glu	Ser	Phe	Val	Ser	Glu	Val	Pro	Gln	Ser	Asp	Leu	Thr		
225					230					235					240		
Ala	Leu	Cys	Asp	Glu	Lys	Asn	Trp	Glu	Glu	Pro	Ile	Pro	Ala	Phe	Ser		
				245					250					255			
Ser	Trp	Gln	Arg	Glu	Asn	Ser	Asp	Ser	Asp	Glu	Ala	His	Leu	Ser	Pro		
				260				265					270				
Gln	Ala	Gly	Arg	Leu	Ile	Arg	Gln	Leu	Leu	Asp	Glu	Asp	Ser	Asp	Pro		
	275						280					285					
Met	Leu	Ser	Pro	Arg	Phe	Tyr	Ala	Tyr	Gly	Gln	Ser	Arg	Gln	Tyr	Leu		
	290					295					300						
Asp	Asp	Thr	Glu	Val	Pro	Pro	Ser	Pro	Pro	Asn	Ser	His	Ser	Phe	Met		
305					310					315					320		
Arg	Arg	Arg	Ser	Ser	Ser	Leu	Gly	Ser	Tyr	Asp	Asp	Glu	Gln	Glu	Asp		
				325					330					335			
Leu	Thr	Pro	Ala	Gln	Leu	Thr	Arg	Arg	Ile	Gln	Ser	Leu	Lys	Lys	Lys		
			340					345					350				
Ile	Arg	Lys	Phe	Glu	Asp	Arg	Phe	Glu	Glu	Glu	Lys	Lys	Tyr	Arg	Pro		
	355						360					365					
Ser	His	Ser	Asp	Lys	Ala	Ala	Asn	Pro	Glu	Val	Leu	Lys	Trp	Thr	Asn		
	370					375					380						
Asp	Leu	Ala	Lys	Phe	Arg	Arg	Gln	Leu	Lys	Glu	Ser	Lys	Leu	Lys	Ile		
385				390						395					400		
Ser	Glu	Glu	Asp	Leu	Thr	Pro	Arg	Met	Arg	Gln	Arg	Ser	Asn	Thr	Leu		
			405					410					415				
Pro	Lys	Ser	Phe	Gly	Ser	Gln	Leu	Glu	Lys	Glu	Asp	Glu	Lys	Lys	Gln		
			420					425				430					
Glu	Leu	Val	Asp	Lys	Ala	Ile	Lys	Pro	Ser	Val	Glu	Ala	Thr	Leu	Glu		
	435						440					445					
Ser	Ile	Gln	Arg	Lys	Leu	Gln	Glu	Lys	Arg	Ala	Glu	Ser	Ser	Arg	Pro		
	450					455				460							
Glu	Asp	Ile	Lys	Asp	Met	Thr	Lys	Asp	Gln	Ile	Ala	Asn	Glu	Lys	Val		
465				470						475					480		
Ala	Leu	Gln	Lys	Ala	Leu	Leu	Tyr	Tyr	Glu	Ser	Ile	His	Gly	Arg	Pro		
			485					490					495				
Val	Thr	Lys	Asn	Glu	Arg	Gln	Val	Met	Lys	Pro	Leu	Tyr	Asp	Arg	Tyr		
			500					505					510				
Arg	Leu	Val	Lys	Gln	Ile	Leu	Ser	Arg	Ala	Asn	Thr	Ile	Pro	Ile	Ile		
	515						520					525					

610	615	620
Leu Leu Glu His Leu Gln Glu Met Arg Glu Glu Lys Lys Arg Ile Arg		
625	630	635
Lys Lys Leu Arg Asp Phe Glu Asp Asn Phe Phe Arg Gln Asn Gly Arg		640
	645	650
Asn Val Gln Lys Glu Asp Arg Thr Pro Met Ala Glu Glu Tyr Ser Glu		655
	660	665
Tyr Lys His Ile Lys Ala Lys Leu Arg Leu Leu Glu Val Leu Ile Ser		670
	675	680
Lys Arg Asp Thr Asp Ser Lys Ser Met		685
690	695	

<210> 4149

<211> 1396

<212> DNA

<213> Homo sapiens

<400> 4149

nacaggggaa ataccgcggc gccggtagtt gctgtgggtt ccgttctgag ctgcagctt
 60
 aggagctgaa gatcgcgagc ttagcggtgc cgcgtccgag tccggccatc agtggctgca
 120
 gatccggagg ccaggagctc aaccaccctt ctccggaaca gggccggcct gctgctgtgc
 180
 cctcgacgct cgggtgcctgt atctactccg gggcctaggt cggctccggg ggcggttag
 240
 gagaaggccg ccggcgagat gttcaaaaac acgttccaga gcggcttcct ctccatcctc
 300
 tacagcatcg gcagcaagcc tctgcaaatac tgggacaaaa aggtacggaa tggccacatc
 360
 aaaaagaatca ctgataatga catccagtcc ctgggtgctag agattgaagg gacaaatgta
 420
 agcaccacat atatcacatg ccctgcagac cccaagaaga cgctgggaat taaacttcct
 480
 ttcttctgtca tgattatcaa aaacctgaag aagtatttta ctttcgaagt gcaggtacta
 540
 gatgacaaga atgtgcgtcg tcgctttcgg gcaagtaact accagagcac caccgggtc
 600
 aaacccttca tctgcacat gcccatgcgg ctggatgacg gctggaacca gattcagttc
 660
 aacttgctag acttcacacg gcgagcatac ggcaccaatt acatcgagac cctcagagtg
 720
 cagatccatg caaattgtcg catccgacgg gtttacttct cagacagact ctactcagaa
 780
 gatgagctgc cggcagagtt caaactgtat ctcccagttc agaacaaggc aaagcaataa
 840
 ctggaattgt gactcgaggg atagaccctt ggatgtgact cttcttttta aaaggaaact
 900
 atgtggagga cgatgcaaaa acatatttat cttagtttgc tctgctgtag ttctgttatt
 960
 tatacttggg gttgcttgtc atggacaccg gtgaacatgc cgtaactctg tgactgcatt
 1020
 gtaagtgcag tgggggtaag cagtcctgtg agtggcgcat gaacgctgga gcttattccg
 1080

ccgcctgccc cagtgtgggg ggagatacct ttaccatgaa cttacagaat taaagatggc
 1140
 ccataaggaa ttccagacca atatttcttc ctgcgggttta ttctatgttt tatatattat
 1200
 ctaaataatat gtatatgctg tgtcatactc ataatctgga aatgaataaa gtgatatat
 1260
 cctggtttgt aaaaaaaaaa aaaaaatttg ctataaaatg agaagtctca ctgatagagg
 1320
 ttctttattg ctcatttttt aaaaaatgga ctcttgaaat ctgttaaaat aaaattgtac
 1380
 atttggaata aaaaaa
 1396

<210> 4150
 <211> 193
 <212> PRT
 <213> Homo sapiens

<400> 4150
 Met Phe Lys Asn Thr Phe Gln Ser Gly Phe Leu Ser Ile Leu Tyr Ser
 1 5 10 15
 Ile Gly Ser Lys Pro Leu Gln Ile Trp Asp Lys Lys Val Arg Asn Gly
 20 25 30
 His Ile Lys Arg Ile Thr Asp Asn Asp Ile Gln Ser Leu Val Leu Glu
 35 40 45
 Ile Glu Gly Thr Asn Val Ser Thr Thr Tyr Ile Thr Cys Pro Ala Asp
 50 55 60
 Pro Lys Lys Thr Leu Gly Ile Lys Leu Pro Phe Leu Val Met Ile Ile
 65 70 75 80
 Lys Asn Leu Lys Lys Tyr Phe Thr Phe Glu Val Gln Val Leu Asp Asp
 85 90 95
 Lys Asn Val Arg Arg Arg Phe Arg Ala Ser Asn Tyr Gln Ser Thr Thr
 100 105 110
 Arg Val Lys Pro Phe Ile Cys Thr Met Pro Met Arg Leu Asp Asp Gly
 115 120 125
 Trp Asn Gln Ile Gln Phe Asn Leu Leu Asp Phe Thr Arg Arg Ala Tyr
 130 135 140
 Gly Thr Asn Tyr Ile Glu Thr Leu Arg Val Gln Ile His Ala Asn Cys
 145 150 155 160
 Arg Ile Arg Arg Val Tyr Phe Ser Asp Arg Leu Tyr Ser Glu Asp Glu
 165 170 175
 Leu Pro Ala Glu Phe Lys Leu Tyr Leu Pro Val Gln Asn Lys Ala Lys
 180 185 190
 Gln

<210> 4151
 <211> 1372
 <212> DNA
 <213> Homo sapiens

<400> 4151
 ttatatTTTT tttttttttt tttttttttt cacggacaga cagggtcggt tgtcacagca
 60

gagaagcacc tcacggctcc taccgcgact catcgcgac agtgccctgca gcgggagcgg
 120
 gcgagcacc ctccccagat gaaaacacca gcaccaggag gtggggccgta gccaggctg
 180
 agggaggagg ctgggggctg gggctcaggg cccccccg gccacagcgc caccctgagt
 240
 ggccctgaaa atagtgcaca gtgctgggta ctgccccggc tggaggcacc tagttgtga
 300
 gcattccggc cacaggccac ccgctggccc ttccttggtg tggcacgaga ccacgggcac
 360
 ttgcaggagc tccctgcatg ctgttttgtg ctttggtctc agggagcacc ctcctacctc
 420
 ggggtcccag agtgggcagc cgggcagggtg tgaacagtgt gacaagggtg ccgtggggca
 480
 cctggtagtg ccaaccaga ggggcagccg gtgctcctgg tgggtgtggca gcaacagtta
 540
 caaactcacc ccaagtccaa accccagaaa tcctgtttct ctggccctcc gggtccagaa
 600
 tgccctgcac tgccctcctg cctcaggggc tgctgcggtg gtgggaaggc tgcccagcag
 660
 tgaggaaggc gagtgcaggg gctgcggccg cggtcagaga aggagagaca ccagcagagg
 720
 acgcaagct ggaccggcca ggttcagagc ccgcctcggg tgctcccaat cagaatctgc
 780
 tttgtctcc acggcctcca agcactttca tgagcgttct gctcctacgt ggccaggctc
 840
 taccttccct gacggctctg gccaggccag ctcggtttcc ctctaacca tgaggcctgg
 900
 gggggctgtg acagaggctg gaaccgcggc cagagcccag gggcaggccc gcctggtcac
 960
 agcaggatga ggctggggtg gcgcagctgc cggtaacact gtagcagcct ctgggagggtg
 1020
 gcacaggagc tggcctcatc ctccgtgcag agccggctgc gcagggtctg cacctcccg
 1080
 agcagtgtct cgtgggttggc gtggatctgg cggagggtact gcacacggag atcaggagcg
 1140
 ctggagccct gggcggcctg ctctgtcac atcgtctgca tgcgcccagc aacggcatgg
 1200
 tgcgccctgc aaatgtcggc cagagaggag ctttccactt gaatctccac ggcctggatg
 1260
 gcgctgctgg gcacaggctg gtcattggcca cctctcggac gatgagggtg acgttggcgc
 1320
 catcaggggc cactccctgg atggaagata gtgctcgggc cctcacgacg tc
 1372

<210> 4152

<211> 97

<212> PRT

<213> Homo sapiens

<400> 4152

Met Pro Cys Thr Ala Ser Trp Pro Gln Gly Leu Leu Arg Trp Trp Glu
 1 5 10 15
 Gly Cys Pro Ala Val Arg Lys Ala Ser Ala Gly Ala Ala Ala Val

```

                20                25                30
Arg Glu Gly Glu Thr Pro Ala Glu Asp Ala Lys Leu Asp Arg Pro Gly
                35                40                45
Ser Glu Pro Ala Ser Val Ala Pro Asn Gln Asn Leu Leu Cys Ala Pro
                50                55                60
Arg Pro Pro Ser Thr Phe Met Ser Val Leu Leu Leu Arg Gly Gln Val
65                70                75                80
Leu Pro Ser Leu Thr Ala Leu Ala Arg Pro Ala Arg Phe Pro Ser Asn
                85                90                95
Pro

```

<210> 4153
 <211> 395
 <212> DNA
 <213> Homo sapiens

```

<400> 4153
tgatcagacc tgagtgaaca gaaggaaaga gcattttacc gatggtatca actgcttggg
60
aaatcctccg attggcaaga aaggctttga tttcctcttt tatcacactg ctgtccctcc
120
tcattaattc ttccacttta tcatttacat ctaggtcttc ttctgaggct tcaaaactgt
180
atgacctctg acccatgctg tttgcatgga agcgagttgg tgacatcttt ccattggatg
240
tagataatcg ctcattattc tccctcccat tttgattggt agtgcaaggc tgtggggaag
300
tatcataact gttgctaggt gacggggaca ttcccgaatg ctgcgtctgt gtggaagctg
360
tagctgtaga ggaagatgct gggacattgt tagtn
395

```

<210> 4154
 <211> 110
 <212> PRT
 <213> Homo sapiens

```

<400> 4154
Met Ser Pro Ser Pro Ser Asn Ser Tyr Asp Thr Ser Pro Gln Pro Cys
1                5                10                15
Thr Thr Asn Gln Asn Gly Arg Glu Asn Asn Glu Arg Leu Ser Thr Ser
                20                25                30
Asn Gly Lys Met Ser Pro Thr Arg Phe His Ala Asn Ser Met Gly Gln
                35                40                45
Arg Ser Tyr Ser Phe Glu Ala Ser Glu Glu Asp Leu Asp Val Asn Asp
50                55                60
Lys Val Glu Glu Leu Met Arg Arg Asp Ser Ser Val Ile Lys Glu Glu
65                70                75                80
Ile Lys Ala Phe Leu Ala Asn Arg Arg Ile Ser Gln Ala Val Asp Thr
                85                90                95
Ile Gly Lys Met Leu Phe Pro Ser Val His Ser Gly Leu Ile
                100                105                110

```

<210> 4155
<211> 1191
<212> DNA
<213> Homo sapiens

<400> 4155
aggcccgagc cgcagggaaa gcggcgcggg ccgggcgggg cgcggcgccc agagctcagg
60
gggagacaaa ggggaccggt tcctctctag gcgccaagat gtggatacag gttcgcacca
120
ttgatggctc caagacgtgc accattgagg acgtgtctcg caaagccacg attgaggagc
180
tgcgcgagcg ggtgtgggcg ctgttcgacg tgcggcccga atgccagcgc ctcttctacc
240
ggggcaagca gttggaaaat ggatatacct tatttgatta tgatgttga ctgaatgata
300
taattcagct gctagtctgc ccagaccctg atcatcttcc tggcacatct acacagattg
360
aggctaaacc ctgttctaata agtccaccta aagtaaagaa agctccgagg gtaggacctt
420
ccaatcagcc atctacatca gctcgtgccc gtcttattga tcctggcttt ggaatatata
480
agatacccag aaagcggtag tctagaaatg aatgtcaagg atcttagacc acgagctaga
540
accattttga aatggaatga actaaatgtt ggtgatgtgg taatgggttaa ttataatga
600
gaaagtcttg gacaaagagg attctgggtt gatgcagaaa ttaccacatt gaagacaatc
660
tcaaggacca aaaaagaact tcgtgtgaaa attttcctgg ggggttctga aggaacatta
720
aatgactgca agataaatc tgtagatgaa atcttcaaga ttgagagacc tggagcccat
780
cccctttcat ttgcagatgg aaagttttta aggcgaaatg accctgaatg tgacctgtgt
840
ggtggagacc cagaaaagaa atgtcattct tgcctctgtc gtgtatgtgg tgggaaacat
900
gaacccaaca tgcagcttct gtgtgatgaa tgtaatgtgg cttatcatat ttactgtctg
960
aatccacctt tggataaagt ccagaaagag gaatactggt attgtccttc ttgtaaaact
1020
gattccagtg aagttgtaaa ggctggtgaa agactcaaga tgagtaaaaa gaaagcaaag
1080
atgccgtcag ctagtactga aagccgaaga gactgaggca ggggagggga ggggagggaa
1140
tgaggcagct ctaggatcta tactgtagct aataaaatgt aaaaacacct g
1191

<210> 4156
<211> 233
<212> PRT
<213> Homo sapiens

<400> 4156
Asp Leu Pro Ile Ser His Leu His Gln Leu Val Pro Val Leu Leu Ile

1		5		10		15									
Leu	Ala	Leu	Glu	Tyr	Ile	Arg	Tyr	Pro	Glu	Ser	Gly	Thr	Leu	Glu	Met
		20		25		30									
Asn	Val	Lys	Asp	Leu	Arg	Pro	Arg	Ala	Arg	Thr	Ile	Leu	Lys	Trp	Asn
		35		40		45									
Glu	Leu	Asn	Val	Gly	Asp	Val	Val	Met	Val	Asn	Tyr	Asn	Val	Glu	Ser
		50		55		60									
Pro	Gly	Gln	Arg	Gly	Phe	Trp	Phe	Asp	Ala	Glu	Ile	Thr	Thr	Leu	Lys
		65		70		75									80
Thr	Ile	Ser	Arg	Thr	Lys	Lys	Glu	Leu	Arg	Val	Lys	Ile	Phe	Leu	Gly
			85			90								95	
Gly	Ser	Glu	Gly	Thr	Leu	Asn	Asp	Cys	Lys	Ile	Ile	Ser	Val	Asp	Glu
			100			105								110	
Ile	Phe	Lys	Ile	Glu	Arg	Pro	Gly	Ala	His	Pro	Leu	Ser	Phe	Ala	Asp
		115		120		125									
Gly	Lys	Phe	Leu	Arg	Arg	Asn	Asp	Pro	Glu	Cys	Asp	Leu	Cys	Gly	Gly
		130		135		140									
Asp	Pro	Glu	Lys	Lys	Cys	His	Ser	Cys	Ser	Cys	Arg	Val	Cys	Gly	Gly
		145		150		155								160	
Lys	His	Glu	Pro	Asn	Met	Gln	Leu	Leu	Cys	Asp	Glu	Cys	Asn	Val	Ala
			165			170								175	
Tyr	His	Ile	Tyr	Cys	Leu	Asn	Pro	Pro	Leu	Asp	Lys	Val	Pro	Glu	Glu
		180		185		190									
Glu	Tyr	Trp	Tyr	Cys	Pro	Ser	Cys	Lys	Thr	Asp	Ser	Ser	Glu	Val	Val
		195		200		205									
Lys	Ala	Gly	Glu	Arg	Leu	Lys	Met	Ser	Lys	Lys	Lys	Ala	Lys	Met	Pro
		210		215		220									
Ser	Ala	Ser	Thr	Glu	Ser	Arg	Arg	Asp							
225				230											

<210> 4157

<211> 3460

<212> DNA

<213> Homo sapiens

<400> 4157

cattagtatc cgcagagatt cgaggacatg ccgttgacct tggttacagga ctggtgtcgg
60
ggggaacacc tgaacacccg gaggtgcatg ctcacccctgg ggatccccga ggactgtggc
120
gaggatgagt ttgaggagac actccaggag gcttgcaggc acctgggagc atacaggggtg
180
attggcagga tgtttaggag ggaggagaac gcccaggcga ttctactgga gctggcacaa
240
gatatcgact atgcttttgc cccaagggaa ataccaggaa agggggggcc ctgggaagtg
300
attgtaaaac cccgtaactc agatggggaa tttctcaaca gactgaaccg cttcttagag
360
gaggagaggc ggaccgtgtc agatatgaac cgagtcctcg ggtcggacac caattgttcg
420
gtccaagag tgactatatc accagagttc tggacctggg cccagactct gggggcagca
480
gtgcagcctc tgctagaaca aatgttgtac cgagaactaa gagtggtttc tgggaacacc
540

atatccatcc caggtgcact ggcctttgat gcctggcttg agcacaccac tgagatgcta
600
cagatgtggc aggtgcccga gggggaaaag aggcggaggc tgatggaatg cttacggggc
660
cctgctctcc aggtggtcag tgggctccgg gccagcaatg cttccataac tgtggaggag
720
tgcttggtg ccttgacgca ggtgttcgga cctgtggaga gccataaaat tgcccagggt
780
aagttgtgta aagcctatca ggaggcagga gagaaagtat ctagctttgt gttacgtttg
840
gaacccctgc tccaaagagc tgtagaaaac aatgtggtat cacgtagaaa cgtgaatcag
900
actcgcctga aacgagtctt aagtggggcc acccttcctg acaaactccg agataagctt
960
aagctgatga aacagcgaag gaagcctcct ggtttcctgg ccctggtgaa gctcctgcgt
1020
gaggaggagg aatgggaggc cactttaggt ccagataggg agagtctgga ggggctggaa
1080
gtagcccaa ggccacctgc caggatcact ggggttgggg cagtacctct ccctgcctct
1140
ggcaacagtt ttgatgcgag gccttcccag ggctaccggc gccggagggg cagaggccaa
1200
caccgaaggg gtggtgtggc aagggtggc tctcagggt caagaaaacg gaaacgccac
1260
acattctgct atagctgtgg ggaagacggc cacatcaggg tacagtgcac caaccctcc
1320
aacctgctct tggtaaagca gaagaaacag gctgcagttg agtcgggaaa cgggaactgg
1380
gcttgggaca agagccatcc caagtccaag gccaaagtagg ctcgggagaa cagggaaca
1440
tttctacca cagcccaagg agacaaaaga gatattggga ggaggggaaa gagaagccca
1500
gacaaacagc agatgagttg agtggggcag agggacaggg cagccagacc aaggccaagc
1560
cttctaccc ttggccagct ggaagggact ttcagcaacc aagaccacct ggcaacaggc
1620
tcagtggggg tcagggtccag gtccccgaag aggtgctgga gaggaagca gggagccact
1680
gcatccagca catggggtgc ctgggcctca gatggggacc ccaaagaagc agaagctgaa
1740
gaaggtagcg ctgggggttc tgtcctgctc atccaaccac ccctaaatac ccaccctgtg
1800
gactttgagc tgaacatgcc cactggcccc caggccacat gggacctgga ggagcctacc
1860
tggggcctgc ccctgccagc aggtgccagg gctggtgagg aagagctggg gggcagaggt
1920
aaagccctgc aggggaggcc acagggtcca tcccgtcttc aggatcatct aactgcact
1980
aggggagccc caggaaggca gcacctgga ggccctgtgc cagtgaggac aggagacct
2040
aaggccccgg gagcccagtg ccagccagag gttgtgcagg caaggagacc aaagattgat
2100
gagaagaccc ccagcagggg tactgggtac ccggcaggcc agtgcctca cagttgactt
2160

ggaccagggg ggctgtgaag ggaagtcttt gttgcaaagg aggaggagga aaagggagga
 2220
 cttggtaggg ttttgtttct tctgcttggt tctgtacagg gccaccagac tcctggagag
 2280
 atcaagcaag gagaacctgg ggctgccatg gccaaagcaa ctcaacagat gccaatgcca
 2340
 attccaaggc cagccacaac cctgccacct tggggaatcc agcctggagg catcccctaa
 2400
 gcagccagcc atggcctggg tggaggcacc tgaagacgtc tgtcccaaac tccccagcc
 2460
 ctgagctggg agatgacagg gggaaagagg ccctctcaag ggtgccagat gcctgggtct
 2520
 cccaagaggg gtcccccaac tcaccgttcc cgggacaggc tgccccctgt tccaggaagc
 2580
 tcatcctcac ctgtgtaggc ccctgtagtg acccacgcgt ccagcagacg cccaccaccc
 2640
 gctagccgtt gttcctgtgc aaagtagtgt gctatgcacc caccagggtg gccgcctctg
 2700
 ggcccaaggc acatgctgtg agcttcctgt gagcccaggc tctgctcact gctgtcccgc
 2760
 gtcattgagca ccacctctgc tttccctgtg tagatctagg ccagtggctg cttgtttttg
 2820
 tggagctgtg tgtgttcttc tctgagcagc tcctccccgg agtccccag cacagtccca
 2880
 ggagatgaca ggaaggaagg caccagggca aggcggacgc tcacctgtg accacgatgg
 2940
 tgaccgtgac tgtgggagga agaactggac ccaggacgga gtggggctgc cctgtctgag
 3000
 tttccccagt gaactttgtg ctttggtgtt ccaccctgt tgttactcat gactcagttt
 3060
 ccttgacctg gtagggtgtt ccctgctgtg tttccagtg tcctgtgact gtctgtgctg
 3120
 ggccataggg cagggccctg tcccagcaga tgggcttggg agggggctcc ctaaagccag
 3180
 tggacactgc cagagtctac cttcctggca agaggcagac cccggggccc tcaggaagga
 3240
 gggagttggc agcgggggct gcagcaggag taggagcaga tgaggcgtct tgccaggaac
 3300
 ctacaggagga gggggcccgg gacctgtgtg ggacctgtgt cctgtggtgg ccgtttgcag
 3360
 tttctctctg tgttgatgatt cccttctctt caacggtttc agtacgtgtt tctcttcaat
 3420
 aaacttcatt cagtgttcca aaaaaaaaaa aaaaaaaaaa
 3460

<210> 4158

<211> 463

<212> PRT

<213> Homo sapiens

<400> 4158

Met Pro Leu Thr Leu Leu Gln Asp Trp Cys Arg Gly Glu His Leu Asn

1

5

10

15

Thr Arg Arg Cys Met Leu Ile Leu Gly Ile Pro Glu Asp Cys Gly Glu

20										25					30				
Asp	Glu	Phe	Glu	Glu	Thr	Leu	Gln	Glu	Ala	Cys	Arg	His	Leu	Gly	Arg				
35						40						45							
Tyr	Arg	Val	Ile	Gly	Arg	Met	Phe	Arg	Arg	Glu	Glu	Asn	Ala	Gln	Ala				
50						55			60										
Ile	Leu	Leu	Glu	Leu	Ala	Gln	Asp	Ile	Asp	Tyr	Ala	Leu	Leu	Pro	Arg				
65				70			75			80									
Glu	Ile	Pro	Gly	Lys	Gly	Gly	Pro	Trp	Glu	Val	Ile	Val	Lys	Pro	Arg				
			85			90			95										
Asn	Ser	Asp	Gly	Glu	Phe	Leu	Asn	Arg	Leu	Asn	Arg	Phe	Leu	Glu	Glu				
100						105			110										
Glu	Arg	Arg	Thr	Val	Ser	Asp	Met	Asn	Arg	Val	Leu	Gly	Ser	Asp	Thr				
115						120			125										
Asn	Cys	Ser	Ala	Pro	Arg	Val	Thr	Ile	Ser	Pro	Glu	Phe	Trp	Thr	Trp				
130			135			140													
Ala	Gln	Thr	Leu	Gly	Ala	Ala	Val	Gln	Pro	Leu	Leu	Glu	Gln	Met	Leu				
145				150			155			160									
Tyr	Arg	Glu	Leu	Arg	Val	Phe	Ser	Gly	Asn	Thr	Ile	Ser	Ile	Pro	Gly				
			165			170			175										
Ala	Leu	Ala	Phe	Asp	Ala	Trp	Leu	Glu	His	Thr	Thr	Glu	Met	Leu	Gln				
180						185			190										
Met	Trp	Gln	Val	Pro	Glu	Gly	Glu	Lys	Arg	Arg	Arg	Leu	Met	Glu	Cys				
195						200			205										
Leu	Arg	Gly	Pro	Ala	Leu	Gln	Val	Val	Ser	Gly	Leu	Arg	Ala	Ser	Asn				
210			215			220													
Ala	Ser	Ile	Thr	Val	Glu	Glu	Cys	Leu	Ala	Ala	Leu	Gln	Gln	Val	Phe				
225				230			235			240									
Gly	Pro	Val	Glu	Ser	His	Lys	Ile	Ala	Gln	Val	Lys	Leu	Cys	Lys	Ala				
			245			250			255										
Tyr	Gln	Glu	Ala	Gly	Glu	Lys	Val	Ser	Ser	Phe	Val	Leu	Arg	Leu	Glu				
260			265			270													
Pro	Leu	Leu	Gln	Arg	Ala	Val	Glu	Asn	Asn	Val	Val	Ser	Arg	Arg	Asn				
275			280			285			290										
Val	Asn	Gln	Thr	Arg	Leu	Lys	Arg	Val	Leu	Ser	Gly	Ala	Thr	Leu	Pro				
295			300																
Asp	Lys	Leu	Arg	Asp	Lys	Leu	Lys	Leu	Met	Lys	Gln	Arg	Arg	Lys	Pro				
305				310			315			320									
Pro	Gly	Phe	Leu	Ala	Leu	Val	Lys	Leu	Leu	Arg	Glu	Glu	Glu	Glu	Trp				
			325			330			335										
Glu	Ala	Thr	Leu	Gly	Pro	Asp	Arg	Glu	Ser	Leu	Glu	Gly	Leu	Glu	Val				
340			345			350			355										
Ala	Pro	Arg	Pro	Pro	Ala	Arg	Ile	Thr	Gly	Val	Gly	Ala	Val	Pro	Leu				
360			365																
Pro	Ala	Ser	Gly	Asn	Ser	Phe	Asp	Ala	Arg	Pro	Ser	Gln	Gly	Tyr	Arg				
370			375			380			385										
Arg	Arg	Arg	Gly	Arg	Gly	Gln	His	Arg	Arg	Gly	Gly	Val	Ala	Arg	Ala				
385				390			395			400									
Gly	Ser	Arg	Gly	Ser	Arg	Lys	Arg	Lys	Arg	His	Thr	Phe	Cys	Tyr	Ser				
			405			410			415										
Cys	Gly	Glu	Asp	Gly	His	Ile	Arg	Val	Gln	Cys	Ile	Asn	Pro	Ser	Asn				
420			425			430			435										
Leu	Leu	Leu	Val	Lys	Gln	Lys	Lys	Gln	Ala	Ala	Val	Glu	Ser	Gly	Asn				
440			445																

450 455 460

<210> 4159
<211> 1491
<212> DNA
<213> Homo sapiens

<400> 4159
catcctagtc gtgcttggtg tgtgtaacct ggatttgttg ctgggcatag tagcaagcac
60
aagtacagtt ctttatgtgt actttgtaag gcagaaatat gtggccagtt ttaggggtcca
120
ggagcaccgt ggagaatgga gagttttctg ttgctttcag tcgttgccct taccatcct
180
tgcctacccc tggttattgc taaaatgggt aactgacaat aaagagatta gaagtgggtt
240
ataggaagcg aggtgggttc tagatgcaaa actaatccc tgtcccatgt gaaattgttt
300
ttgtgatttt gtggcgttgg ggatgacaga tgagacttga ggaatgcaaa tgtgctaatt
360
tcccacttga tgtattggaa agtgtggagc atgtatacat cacctgggta atttcatttg
420
gcactatttt cttccgggtca gctcactgca ttgacagaa caaatactga gtctgcaaa
480
attcgagcaa tagaaaagtc tgtggtgcct tgggtcaacg accaggatgt ccctttctgt
540
ccagactgtg ggaataagtt cagcatccgg aaccgcccgc accactgccc cctctgcggg
600
tctattatgt gcaagaagtg tatggagctc atcagccttc ccttgcaaaa caagctcacc
660
agtgccagca aggagtcctt gagcaccac accagcccca gccagtcacc caacagtgtc
720
catggctccc gccgaggcag catcagcagc atgagcagtg tcagctcggt cctggatgag
780
aaggacgatg accggatccg ctgctgtaca cactgcaagg acacgtgct caagagagag
840
cagcagattg atgagaagga gcacacacct gacatcgtga agctctacga gaaattacga
900
ctttgcatgg agaaagtga ccagaaagct ccagaatata tcaggatggc agcatcatta
960
aatgctgggg agacaacct cagtctggaa catgccagt accttcgagt ggaagtgcag
1020
aaagtgtatg agctgataga cgctttaagt aagaagatct taacctggg cttgaaccag
1080
gacctccac cacatccaag caatttgagg ctgcagagaa tgatcagata ctgagctaca
1140
ctttttgtgc aggaaaagtt gcttggtttg atgtcactgc caaccaaaga acagtttgag
1200
gaactgaaaa agaaaaggaa ggaggaaatg gagaggaaga gggccgtgga gagacaagct
1260
gccctggagt ccagcgaag gcttgaggaa aggcagagt gcctggcttc tcgagcggcc
1320
aacggggagg tggcatctct ccgcaggggc cctgccccct tgaaaaaggc tgagggctgg
1380

ctcccactgt caggaggtca ggggcagagt gaggactcag acccgctcct ccagcagatc
 1440
 cacaacatca catcattcat caggcaggcc aaggccgcgg ggccgcatgg g
 1491

<210> 4160
 <211> 360
 <212> PRT
 <213> Homo sapiens

<400> 4160
 Phe His Leu Ala Leu Phe Ser Ser Gly Gln Leu Thr Ala Phe Asp Arg
 1 5 10 15
 Thr Asn Thr Glu Ser Ala Lys Ile Arg Ala Ile Glu Lys Ser Val Val
 20 25 30
 Pro Trp Val Asn Asp Gln Asp Val Pro Phe Cys Pro Asp Cys Gly Asn
 35 40 45
 Lys Phe Ser Ile Arg Asn Arg Arg His His Cys Arg Leu Cys Gly Ser
 50 55 60
 Ile Met Cys Lys Lys Cys Met Glu Leu Ile Ser Leu Pro Leu Ala Asn
 65 70 75 80
 Lys Leu Thr Ser Ala Ser Lys Glu Ser Leu Ser Thr His Thr Ser Pro
 85 90 95
 Ser Gln Ser Pro Asn Ser Val His Gly Ser Arg Arg Gly Ser Ile Ser
 100 105 110
 Ser Met Ser Ser Val Ser Ser Val Leu Asp Glu Lys Asp Asp Asp Arg
 115 120 125
 Ile Arg Cys Cys Thr His Cys Lys Asp Thr Leu Leu Lys Arg Glu Gln
 130 135 140
 Gln Ile Asp Glu Lys Glu His Thr Pro Asp Ile Val Lys Leu Tyr Glu
 145 150 155 160
 Lys Leu Arg Leu Cys Met Glu Lys Val Asp Gln Lys Ala Pro Glu Tyr
 165 170 175
 Ile Arg Met Ala Ala Ser Leu Asn Ala Gly Glu Thr Thr Tyr Ser Leu
 180 185 190
 Glu His Ala Ser Asp Leu Arg Val Glu Val Gln Lys Val Tyr Glu Leu
 195 200 205
 Ile Asp Ala Leu Ser Lys Lys Ile Leu Thr Leu Gly Leu Asn Gln Asp
 210 215 220
 Pro Pro Pro His Pro Ser Asn Leu Arg Leu Gln Arg Met Ile Arg Tyr
 225 230 235 240
 Ser Ala Thr Leu Phe Val Gln Glu Lys Leu Leu Gly Leu Met Ser Leu
 245 250 255
 Pro Thr Lys Glu Gln Phe Glu Glu Leu Lys Lys Lys Arg Lys Glu Glu
 260 265 270
 Met Glu Arg Lys Arg Ala Val Glu Arg Gln Ala Ala Leu Glu Ser Gln
 275 280 285
 Arg Arg Leu Glu Glu Arg Gln Ser Gly Leu Ala Ser Arg Ala Ala Asn
 290 295 300
 Gly Glu Val Ala Ser Leu Arg Arg Gly Pro Ala Pro Leu Lys Lys Ala
 305 310 315 320
 Glu Gly Trp Leu Pro Leu Ser Gly Gly Gln Gly Gln Ser Glu Asp Ser
 325 330 335
 Asp Pro Leu Leu Gln Gln Ile His Asn Ile Thr Ser Phe Ile Arg Gln

tatcctcggt ctgatcgctg caactaccag aatcattgcc caaatggctc agatgaaaaa
1380
aactgccttt tttgccaacc aggaaatttc cattgtaaaa acaatcgttg tgtgtttgaa
1440
agttgggtgt gtgattctca agatgactgt ggtgatggca gcgatgaaga aaattgccca
1500
gtaatcgtgc ctacaagagt catcactgct gccgtcatag ggagcctcat ctgtggcctg
1560
ttactcgta tagcattggg atgtacttgt aagctttatt ctctgagaat gtttgaaaga
1620
agatcatttg aaacacagtt gtcaagagtg gaagcagaat tgtaagaag agaagctcct
1680
ccctcgatg gacaattgat tgetcagggt ttaattccac cagttgaaga ttttcctgtt
1740
tgttcaccta atcaggttc tgttttggaa aatctgaggc tagcggtagc atctcagctt
1800
ggatttactt cagtcaggct tcctatggca ggcagatcaa gcaacatttg gaaccgtatt
1860
tttaattttg caagatcacg tcattctggg tcattggctt tggctctcagc agatggagat
1920
gaggttgtcc ctagtcagag taccagtaga gaacctgaga gaaatcatac tcacagaagt
1980
ttgttttccg tggagtctga tgatacagac acagaaaatg agagaagaga tatggcagga
2040
gcatctggtg gggttgcagc tcctttgcct caaaaagtcc ctcccacaac ggcagtagaa
2100
gcgacagtag gagcatgtgc aagttcctca actcagagta cccgagggtg tcatgcagat
2160
aatggaagg atgtgacaag tgtggaaccc ccaagtgtga gtccagcacg tcaccagctt
2220
acaagtgcac tcagtcgtat gactcagggg ctacgctggg tacgttttac attaggacga
2280
tcaagttccc taagtcagaa ccagagtcct ttgagacaac ttgataatgg ggtaagtgga
2340
agagaagatg atgatgatgt tgaaatgcta attccaattt ctgatggatc ttcagacttt
2400
gatgtgaatg actgctccag acctcttctt gatcttgcct cagatcaagg acaagggtt
2460
agacaacat ataatgcaac aaatcctgga gtaaggccaa gtaatcgaga tggccctgt
2520
gagcgtgtg gtattgtcca cactgccag ataccagaca ctgcttaga agtaacactg
2580
aaaaacgaaa cgagtgatga tgaggctttg ttactttgtt aggtacgaat cacataaggg
2640
agattgtata caagttggag caatatccgt ttattatttt gtaactttac agttaaacta
2700
gttttagttt aaaaagaaaa aatgcagggt gatttcttat tattatatgt tagcctgcat
2760
ggttaaatc gacaacttgt aactctatga acttagagtt tactatttta gcagctaaaa
2820
atgcatcaca tattgcatat tgttcaataa tggctcttc atttgtttct gattgttttc
2880
atcctgatac tgtagttcac tgtagaaatg tggctgctga aactcattg attgtcattt
2940

ttatctatcc tatgttaaatt gggttggttt tacaaaataa taccttattt taattgaaac
 3000
 gtttatgctt ttgccaagca catcttgtaa cttaatatag ctagatgtta aggttggttaa
 3060
 tgtacaaaaa aaaaaaaccc ttatactcac ctgcgttttc atttggttga catttgctta
 3120
 ttattggata tcattatcat atgaacttgt cagtgggaaa caaactgtct aaaaatttat
 3180
 ctcttacggt taacatacaa tcatgtgaga ttaggcaga gttcgataaa ttactggcaa
 3240
 aaacaaaact catttataaa gattttctaa tgttgacttt aatactctaa catggtacaa
 3300
 accanatggt aaaatc
 3316

<210> 4162

<211> 859

<212> PRT

<213> Homo sapiens

<400> 4162

Met	Ala	Cys	Arg	Trp	Ser	Thr	Lys	Glu	Ser	Pro	Arg	Trp	Arg	Ser	Ala	1	5	10	15
Leu	Leu	Leu	Leu	Phe	Leu	Ala	Gly	Val	Tyr	Gly	Asn	Gly	Ala	Leu	Ala	20	25	30	
Glu	His	Ser	Glu	Asn	Val	His	Ile	Ser	Gly	Val	Ser	Thr	Ala	Cys	Gly	35	40	45	
Glu	Thr	Pro	Glu	Gln	Ile	Arg	Ala	Pro	Ser	Gly	Ile	Ile	Thr	Ser	Pro	50	55	60	
Gly	Trp	Pro	Ser	Glu	Tyr	Pro	Ala	Lys	Ile	Asn	Cys	Ser	Trp	Phe	Ile	65	70	75	80
Arg	Ala	Asn	Pro	Gly	Glu	Ile	Ile	Thr	Ile	Ser	Phe	Gln	Asp	Phe	Asp	85	90	95	
Ile	Gln	Gly	Ser	Arg	Arg	Cys	Asn	Leu	Asp	Trp	Leu	Thr	Ile	Glu	Thr	100	105	110	
Tyr	Lys	Asn	Ile	Glu	Ser	Tyr	Arg	Ala	Cys	Gly	Ser	Thr	Ile	Pro	Pro	115	120	125	
Pro	Tyr	Ile	Ser	Ser	Gln	Asp	His	Ile	Trp	Ile	Arg	Phe	His	Ser	Asp	130	135	140	
Asp	Asn	Ile	Ser	Arg	Lys	Gly	Phe	Arg	Leu	Ala	Tyr	Phe	Ser	Gly	Lys	145	150	155	160
Ser	Glu	Glu	Pro	Asn	Cys	Ala	Cys	Asp	Gln	Phe	Arg	Cys	Gly	Asn	Gly	165	170	175	
Lys	Cys	Ile	Pro	Glu	Ala	Trp	Lys	Cys	Asn	Asn	Met	Asp	Glu	Cys	Gly	180	185	190	
Asp	Ser	Ser	Asp	Glu	Glu	Ile	Cys	Ala	Lys	Glu	Ala	Asn	Pro	Pro	Thr	195	200	205	
Ala	Ala	Ala	Phe	Gln	Pro	Cys	Ala	Tyr	Asn	Gln	Phe	Gln	Cys	Leu	Ser	210	215	220	
Arg	Phe	Thr	Lys	Val	Tyr	Thr	Cys	Leu	Pro	Glu	Ser	Leu	Lys	Cys	Asp	225	230	235	240
Gly	Asn	Ile	Asp	Cys	Leu	Asp	Leu	Gly	Asp	Glu	Ile	Asp	Cys	Asp	Val	245	250	255	
Pro	Thr	Cys	Gly	Gln	Trp	Leu	Lys	Tyr	Phe	Tyr	Gly	Thr	Phe	Asn	Ser				

260							265					270				
Pro	Asn	Tyr	Pro	Asp	Phe	Tyr	Pro	Pro	Gly	Ser	Asn	Cys	Thr	Trp	Leu	
275							280					285				
Ile	Asp	Thr	Gly	Asp	His	Arg	Lys	Val	Ile	Leu	Arg	Phe	Thr	Asp	Phe	
290							295					300				
Lys	Leu	Asp	Gly	Thr	Gly	Tyr	Gly	Asp	Tyr	Val	Lys	Ile	Tyr	Asp	Gly	
305					310				315						320	
Leu	Glu	Glu	Asn	Pro	His	Lys	Leu	Leu	Arg	Val	Leu	Thr	Ala	Phe	Asp	
				325				330						335		
Ser	His	Ala	Pro	Leu	Thr	Val	Val	Ser	Ser	Ser	Gly	Gln	Ile	Arg	Val	
			340				345						350			
His	Phe	Cys	Ala	Asp	Lys	Val	Asn	Ala	Ala	Arg	Gly	Phe	Asn	Ala	Thr	
			355				360						365			
Tyr	Gln	Val	Asp	Gly	Phe	Cys	Leu	Pro	Trp	Glu	Ile	Pro	Cys	Gly	Gly	
			370				375				380					
Asn	Trp	Gly	Cys	Tyr	Thr	Glu	Gln	Gln	Arg	Cys	Asp	Gly	Tyr	Trp	His	
385					390				395						400	
Cys	Pro	Asn	Gly	Arg	Asp	Glu	Thr	Asn	Cys	Thr	Met	Cys	Gln	Lys	Glu	
				405				410						415		
Glu	Phe	Pro	Cys	Ser	Arg	Asn	Gly	Val	Cys	Tyr	Pro	Arg	Ser	Asp	Arg	
			420				425						430			
Cys	Asn	Tyr	Gln	Asn	His	Cys	Pro	Asn	Gly	Ser	Asp	Glu	Lys	Asn	Cys	
			435				440						445			
Phe	Phe	Cys	Gln	Pro	Gly	Asn	Phe	His	Cys	Lys	Asn	Asn	Arg	Cys	Val	
			450				455				460					
Phe	Glu	Ser	Trp	Val	Cys	Asp	Ser	Gln	Asp	Asp	Cys	Gly	Asp	Gly	Ser	
465					470				475						480	
Asp	Glu	Glu	Asn	Cys	Pro	Val	Ile	Val	Pro	Thr	Arg	Val	Ile	Thr	Ala	
			485						490						495	
Ala	Val	Ile	Gly	Ser	Leu	Ile	Cys	Gly	Leu	Leu	Leu	Val	Ile	Ala	Leu	
			500				505						510			
Gly	Cys	Thr	Cys	Lys	Leu	Tyr	Ser	Leu	Arg	Met	Phe	Glu	Arg	Arg	Ser	
			515				520						525			
Phe	Glu	Thr	Gln	Leu	Ser	Arg	Val	Glu	Ala	Glu	Leu	Leu	Arg	Arg	Glu	
			530				535				540					
Ala	Pro	Pro	Ser	Tyr	Gly	Gln	Leu	Ile	Ala	Gln	Gly	Leu	Ile	Pro	Pro	
545					550				555						560	
Val	Glu	Asp	Phe	Pro	Val	Cys	Ser	Pro	Asn	Gln	Ala	Ser	Val	Leu	Glu	
			565						570						575	
Asn	Leu	Arg	Leu	Ala	Val	Arg	Ser	Gln	Leu	Gly	Phe	Thr	Ser	Val	Arg	
			580				585						590			
Leu	Pro	Met	Ala	Gly	Arg	Ser	Ser	Asn	Ile	Trp	Asn	Arg	Ile	Phe	Asn	
			595				600						605			
Phe	Ala	Arg	Ser	Arg	His	Ser	Gly	Ser	Leu	Ala	Leu	Val	Ser	Ala	Asp	
			610				615				620					
Gly	Asp	Glu	Val	Val	Pro	Ser	Gln	Ser	Thr	Ser	Arg	Glu	Pro	Glu	Arg	
625					630				635						640	
Asn	His	Thr	His	Arg	Ser	Leu	Phe	Ser	Val	Glu	Ser	Asp	Asp	Thr	Asp	
			645													


```

      690              695              700
Ala Asp Asn Gly Arg Asp Val Thr Ser Val Glu Pro Pro Ser Val Ser
705              710              715              720
Pro Ala Arg His Gln Leu Thr Ser Ala Leu Ser Arg Met Thr Gln Gly
      725              730              735
Leu Arg Trp Val Arg Phe Thr Leu Gly Arg Ser Ser Ser Leu Ser Gln
      740              745              750
Asn Gln Ser Pro Leu Arg Gln Leu Asp Asn Gly Val Ser Gly Arg Glu
      755              760              765
Asp Asp Asp Asp Val Glu Met Leu Ile Pro Ile Ser Asp Gly Ser Ser
      770              775              780
Asp Phe Asp Val Asn Asp Cys Ser Arg Pro Leu Leu Asp Leu Ala Ser
785              790              795              800
Asp Gln Gly Gln Gly Leu Arg Gln Pro Tyr Asn Ala Thr Asn Pro Gly
      805              810              815
Val Arg Pro Ser Asn Arg Asp Gly Pro Cys Glu Arg Cys Gly Ile Val
      820              825              830
His Thr Ala Gln Ile Pro Asp Thr Cys Leu Glu Val Thr Leu Lys Asn
      835              840              845
Glu Thr Ser Asp Asp Glu Ala Leu Leu Leu Cys
      850              855

```

<210> 4163

<211> 568

<212> DNA

<213> Homo sapiens

<400> 4163

```

ntctagaacc ttctcttggt gccagggcag gctcaggaca ggctgccgtc agccaggccc
60
actccagggc tcccaggtca gagtggccat ggtagcttac aatgcggcct gcaggaccca
120
gcaggcagcc ggcccccttc cctcccttt tccgcctgc gctctgaagg ctccaagtca
180
gtgttgcccc agtggctctg ggggatgaag gggatcccgg tcccatctgg acaccctcaa
240
gctgatggac gcagagctct ggtgcgggca gtgggtcacc cccaggacct gctgaccgaa
300
gcctctcccc gctgcccggc aggcccttca ccgctgagat ctaccggcag aaagcctccg
360
ggcccccaa gaggaggtga tttagctgcc ccagttttgt ttaaggcctg ggccacctcc
420
ttggcttgcc ccaagtggca ggccttgccg agggcgagaa tggcgccctg tggtcagggc
480
tcgcccccg cgtgggctgc cccagtgcct tggaacctgc tgccttgagg accctggacg
540
tgccgacata tggccattga gctccaac
568

```

<210> 4164

<211> 187

<212> PRT

<213> Homo sapiens

<400> 4164

```

Asn Leu Ser Leu Trp Pro Gly Gln Ala Gln Asp Arg Leu Pro Ser Ala
 1           5           10           15
Arg Pro Thr Pro Gly Leu Pro Gly Gln Ser Gly His Gly Ser Leu Gln
          20           25           30
Cys Gly Leu Gln Asp Pro Ala Gly Ser Arg Pro Leu Ser Pro Pro Phe
          35           40           45
Ser Arg Leu Arg Ser Glu Gly Ser Lys Ser Val Leu Pro Gln Trp Leu
          50           55           60
Trp Gly Met Lys Gly Ile Pro Val Pro Ser Gly His Pro Gln Ala Asp
          65           70           75           80
Gly Arg Arg Ala Leu Val Arg Ala Val Gly His Pro Gln Asp Leu Leu
          85           90           95
Thr Glu Ala Ser Pro Arg Cys Pro Ala Gly Pro Ser Pro Leu Arg Ser
          100          105          110
Thr Gly Arg Lys Pro Pro Gly Pro Pro Arg Gly Gly Asp Leu Ala Ala
          115          120          125
Pro Val Leu Phe Lys Ala Trp Ala Thr Ser Leu Ala Cys Pro Lys Trp
          130          135          140
Gln Ala Leu Arg Arg Ala Arg Met Val Pro Val Val Gln Gly Ser Pro
          145          150          155          160
Pro Ala Trp Ala Ala Pro Val Pro Trp Asn Leu Leu Pro Trp Gly Pro
          165          170          175
Trp Thr Cys Arg His Met Ala Ile Glu Leu Gln
          180          185

```

<210> 4165

<211> 717

<212> DNA

<213> Homo sapiens

<400> 4165

```

ngcgtgcagg aacgcttcgt ggctggctcc ctggctgggtg ccacagccca aaccatcatt
60
taccctatgg aggtgctgaa gacgcggtg accttgcgcc ggacgggcca gtataagggg
120
ctgctggact ggcgcaggcg taccctggag agggaggggc cccgtgcctt ctaccgcggc
180
tacctcccca acgtgctggg catcatcccc tatgcgggca tcgacctggc cgtctacgag
240
actctgaaga actggtggct tcagcagtag acccagact cggcagaccc aggcacctc
300
gtgctcctgg cctgcggtac catatccagc acctgcggcc agatagccag ttaccgctg
360
gccctggctc ggaccgcgat gcaggcacia ggatttcac atgttgccca ggctcatctc
420
gaactcgtgg ggtcaaggaa ttcgccagcc ttcagcctcc caactgctg ggattacagg
480
aagccggtgg tcatgccatg agcagcctta tggagaggac catgtggtta ggaactcagc
540
caatagccat gtaactgagc ttggaagagg atcttgctgt cctggccaac atctcactgc
600
aattctatca gttgaattcc ctggatagtc caagctttgt ggatccctcc accagaacaa
660

```

ctggatccca gtacctgaat cctgaatctt agactcttat acttcaaaca ctgatca
717

<210> 4166
<211> 166
<212> PRT
<213> Homo sapiens

<400> 4166
Xaa Val Gln Glu Arg Phe Val Ala Gly Ser Leu Ala Gly Ala Thr Ala
1 5 10 15
Gln Thr Ile Ile Tyr Pro Met Glu Val Leu Lys Thr Arg Leu Thr Leu
20 25 30
Arg Arg Thr Gly Gln Tyr Lys Gly Leu Leu Asp Cys Ala Arg Arg Ile
35 40 45
Leu Glu Arg Glu Gly Pro Arg Ala Phe Tyr Arg Gly Tyr Leu Pro Asn
50 55 60
Val Leu Gly Ile Ile Pro Tyr Ala Gly Ile Asp Leu Ala Val Tyr Glu
65 70 75 80
Thr Leu Lys Asn Trp Trp Leu Gln Gln Tyr Ser His Asp Ser Ala Asp
85 90 95
Pro Gly Ile Leu Val Leu Leu Ala Cys Gly Thr Ile Ser Ser Thr Cys
100 105 110
Gly Gln Ile Ala Ser Tyr Pro Leu Ala Leu Val Arg Thr Arg Met Gln
115 120 125
Ala Gln Gly Phe His His Val Ala Gln Ala His Leu Glu Leu Val Gly
130 135 140
Ser Arg Asn Ser Pro Ala Phe Ser Leu Pro Thr Cys Trp Asp Tyr Arg
145 150 155 160
Lys Pro Val Val Met Pro
165

<210> 4167
<211> 897
<212> DNA
<213> Homo sapiens

<400> 4167
ngccggcacg ccgcccagca tgggtccggga aatcaggcat ctctgggtgg gcaattttacc
60
cgagaacgtg cgggaagaga agatcatcga gcattttcaa cggctggtgt gcaatggcgt
120
gatctcagcc caccgcaact tccgcctcct gggatcaagc aatcctcctg cttcagcctc
180
ctgagtagct tggactacag atatggccgc gtggaaagtg tcaaaattct tcccaagagg
240
ggatctgaag gaggagtggc tgcctttgtg gattttgtgg acatcaaaaag tgcacagaaa
300
gctcacaact cgggtcaacaa aatgggtgac agagacctac gcacggatta taatgaacca
360
ggcaccatcc cgagtgtgct tccggggattg gatgatacag tttccatagc atctcgtagt
420
agagaggttt ctgggttcag aggaggtggt ggagggcctg cttatggtcc cccaccgtca
480

cttcatgcac gagaaggacg ttatgagcgg agacttgatg gggcttcaga taacagggag
 540
 cgtgcttatg aacatagtgc ctatggacac catgaacggg ggacgggagg atttgatcgg
 600
 acaagacatt acgatcagga ttactataga gatcctcgag agcggacttt acaacatggg
 660
 ctctattacg cttctcggag tcgaagtcca aatcgctttg atgctcatga ccccgatat
 720
 gaacctaggg ctgcgcgagca gtttacctg cccagtgtgg tacacagggg tatctacagg
 780
 gatgatatta cccgggaggt acgaggcaga aggccagagc ggaattacca gcacagcagg
 840
 agtcggtcac cacattcatc ccagtctaga aatcagtctc ctcagagact ggctagc
 897

<210> 4168

<211> 299

<212> PRT

<213> Homo sapiens

<400> 4168

Xaa	Arg	His	Ala	Ala	Gln	His	Gly	Pro	Gly	Asn	Gln	Ala	Ser	Leu	Gly
1			5						10					15	
Gly	Gln	Phe	Thr	Arg	Glu	Arg	Ala	Gly	Arg	Glu	Asp	His	Arg	Ala	Phe
			20					25					30		
Gln	Thr	Ala	Gly	Val	Gln	Trp	Arg	Asp	Leu	Ser	Pro	Pro	Gln	Leu	Pro
		35					40					45			
Pro	Pro	Gly	Ile	Lys	Gln	Ser	Ser	Cys	Phe	Ser	Leu	Leu	Ser	Ser	Leu
	50					55					60				
Asp	Tyr	Arg	Tyr	Gly	Arg	Val	Glu	Ser	Val	Lys	Ile	Leu	Pro	Lys	Arg
65					70					75				80	
Gly	Ser	Glu	Gly	Gly	Val	Ala	Ala	Phe	Val	Asp	Phe	Val	Asp	Ile	Lys
			85						90					95	
Ser	Ala	Gln	Lys	Ala	His	Asn	Ser	Val	Asn	Lys	Met	Gly	Asp	Arg	Asp
			100						105				110		
Leu	Arg	Thr	Asp	Tyr	Asn	Glu	Pro	Gly	Thr	Ile	Pro	Ser	Ala	Ala	Arg
		115					120					125			
Gly	Leu	Asp	Asp	Thr	Val	Ser	Ile	Ala	Ser	Arg	Ser	Arg	Glu	Val	Ser
	130					135						140			
Gly	Phe	Arg	Gly	Gly	Gly	Gly	Gly	Pro	Ala	Tyr	Gly	Pro	Pro	Pro	Ser
145					150					155					160
Leu	His	Ala	Arg	Glu	Gly	Arg	Tyr	Glu	Arg	Arg	Leu	Asp	Gly	Ala	Ser
			165						170					175	
Asp	Asn	Arg	Glu	Arg	Ala	Tyr	Glu	His	Ser	Ala	Tyr	Gly	His	His	Glu
		180						185					190		
Arg	Gly	Thr	Gly	Gly	Phe	Asp	Arg	Thr	Arg	His	Tyr	Asp	Gln	Asp	Tyr
	195						200						205		
Tyr	Arg	Asp	Pro	Arg	Glu	Arg	Thr	Leu	Gln	His	Gly	Leu	Tyr	Tyr	Ala
	210					215						220			
Ser	Arg	Ser	Arg	Ser	Pro	Asn	Arg	Phe	Asp	Ala	His	Asp	Pro	Arg	Tyr
225					230					235					240
Glu	Pro	Arg	Ala	Arg	Glu	Gln	Phe	Thr	Leu	Pro	Ser	Val	Val	His	Arg
			245						250					255	
Asp	Ile	Tyr	Arg	Asp	Asp	Ile	Thr	Arg	Glu	Val	Arg	Gly	Arg	Arg	Pro

	260		265		270
Glu Arg Asn Tyr Gln His Ser Arg Ser Arg Ser Pro His Ser Ser Gln					
	275		280		285
Ser Arg Asn Gln Ser Pro Gln Arg Leu Ala Ser					
290		295			

<210> 4169

<211> 4743

<212> DNA

<213> Homo sapiens

<400> 4169

```

gtggttatgg agcagctgcc gggggtgcc ccaggccccc cccaccccg tgcaccgcc
60
ccccgcctc caccacccat gccctgcag ctccaggccc acctccgag ccatggcctg
120
gagcccgcg cccccagccc ccgcctgcga cccgaggaga gcctggatcc gccaggcgcc
180
atgcaggaat tgctcggggc tctggagccg ctgcccccg cgctggggga tactggcgta
240
ggccaccaa actcggaggg caaggatccc gcaggcgcc acctcagccc cagcccgcaa
300
ggcaccaagg cgccgcgttt cgtgccgctc acctccatct gcttcctga ctcttgctc
360
caagacgagg agcgcagctt cttccccacc atggaggaga tggtcggtgg aggggcccgcg
420
gacgactacg gcaaggccgg gccacctgag gacgaggggg accccaaggc tggcgctggg
480
ccaccccccg gccccctgc ttatgatccc tatgggccct actgtcctgg ccgggcgctg
540
ggagccgggc ccgagacacc gggcctgggc ctggacccca acaaaccgcc tgaactgcc
600
tccacggtca acgcccagcc gctgggcctg atccagagtg gccccacca ggcgcgcca
660
ccacccccgc ctccgccacc gccgcctccc gcgcgggcct ccgaacccaa ggggtggcctc
720
acctcgccca tttctgctc taccaagcca aagaagctgc tcaagacatc ctcttccac
780
ctgctgcggc gcgcgaccc accttccag accccaaga agctgtacgc ccaggagtac
840
gagttcgagg cggacgagga caaggccgat gtcccgccg acatccgcct caacccccg
900
cgcttgctg acctggtctc cagctgcgcg tcccgccgg cctctcgcc actgggggac
960
atcgacttct gcctacccaa cccaggaccc gatggccccc ggcgccgtgg ccgcaagccc
1020
acgaaggcga aacgtgatgg gccaccccg ccaaggggga gggcccgat ccgccccctg
1080
gaggtcccca cactgcggg gccgcctcg gcctccacgc ccaccgatgg cgccaagaaa
1140
ccccggggcc ggggcccagg ccggggtcga aaggctgagg aggcaggggg cacccggtg
1200
gagccccga agccacttaa gatcaagctg tctgtgcccc aggctggcga gggctctggga
1260

```

acctcatcgg gtgatgccat atcaggcact gaccacaaca gcctggactc gagcctgact
1320
cgggagaaga tcgaggccaa gattaaggag gtggaggaga agcagccgga gatgaagtcg
1380
ggtttcatgg cctccttctt ggacttcctc aagtcaggca agcgccaccc accactctac
1440
caggcggggc tgacgcctcc gctcagccct cccaagagtg tgccaccctc tgtgccagcc
1500
cgaggcctgc agccccagcc ccctgccacc cctgctgtgc cacatcccc accttcgga
1560
gcctttgggc ttgggggccc cctggaggct gcagagagtg agggctctggg gcttggctgc
1620
ccttcaccct gcaagcggct tgatgaggag ctgaagcgga acctcgagac gctgccctcc
1680
ttctcctcgg atgaggaaga ctctgtcgcc aagaaccgag acctgcagga gagcatctcc
1740
tccgccatct ctgccctcga tgaccacccc cttgctgggc caaaagacac ttccacccca
1800
gatggggccc ccttgggccc cgcggtgca gttccagggc cccccctct tccggggctc
1860
cccagtgcc acagcaatgg cactcccgag ccccgctgc tggaggagaa accccaccc
1920
actccacctc ctgccccgac tcctcagcct cagcctccgc cccccctcc gccgccacag
1980
ccagccctgc cctcgccacc cccgctggtg gccccacgc ccagctcacc accgccaccg
2040
ccgctgccgc cgccacctcc accagccatg ccctcgctc caccaccacc cccaccagcc
2100
gctgccccac tggctgctcc tcctgaggag cccgcccgc cgtctcccga agaccccag
2160
ctgccggaca cccggcccct gcatctggcc aaaaagcagg agacggcggc agtgtgtggg
2220
gagacggacg aggaggcccg cgagagtggc ggagagggca tcttccggga acgggacgag
2280
ttcgtcatcc gtgctgagga catcccttcc ctcaagctgg cgttgcagac ggggcgtgaa
2340
ccccaccca tctggcgagt ccagaaggcc cttctgcaga aattcactcc ggagatcaag
2400
gacggccaga ggcagttttg tgccaccagt aattatgttg ggtatgttg ggatgcaaaa
2460
aatcgggtacc agcgctcta tgtaaagtc ctggaaaatg tcaataagaa ggactacgtg
2520
agggtctgtg ctcggaaacc ctggcatcgg cccccagtgc cagtcagacg ctctgggcag
2580
gccaagaacc ccgtatctgc tgggggtagc tctgcacctc cccctaaggc cccagcacca
2640
cctcccaagc ctgagacccc tgaaaagacg acatctgaga agccccagc agcagactcc
2700
tgagacggcc atgcctgagc cccctgcccc cgagaagccc tccctcctgc ggctgttga
2760
gaaggaaaag gagaaggaga aggtgacacg tggagagcgg ccattgcggg gtgagcggg
2820
caccagcgga cggcagacac ggccagagcg gagtctcgcc acgggacaac ctgccacatc
2880

ccggctgccc aaagccgggc ctaccaaggt gaaggctgaa ccgcccccta agaagaggaa
2940
gaaatggctg aaggaggcag gcggcaacgc tacagcaggc gggggcccac caggcagctc
3000
ctcggactcg gagtcctccc ctggagcccc cagcaggac gagcgggcag tacctgggcg
3060
tctgctcaaa accagggcga tgcgggagat gtaccggagc tacgtggaga tgttgggtgag
3120
cacagactt gaccagaca tgatccaggc cctggaggac acgcatgacg agctgtacct
3180
gcccccatg cggaagatag acggcctgct gaatgagcac aagaagaaag tcctgaagcg
3240
gctgtcgcta agcccagccc tgcaggatgc tctgcacacg ttcccacagc tgcaagtgga
3300
gcagagtggg gagggctctc cggaagaggg ggctgtgcgg ctgcggcctg ctggggaacc
3360
ctacaaccgc aagacgctca gcaagctcaa gaggagcgtg gtcagagccc aggagttcaa
3420
ggttgagctg gaaaagtccg gatactatac actctaccat tcgctccacc actataaata
3480
ccacaccttc ctgcgctgcc gggaccagac cctggccatc gagggcggcg ccgaggacct
3540
gggccaggag gaggtgttcc agcagtgcac gcggaaccag ccgtggctgg aacagctctt
3600
tgactccttc agtgacctgc tggcccaagc acaggccac agccgctcg ggtgaccccg
3660
ccccagcttg tgaggggggc gcctcctcca tgaaccgaga attgggacag aaccgtgtcc
3720
tcaggagcta acacctgggc tccatcgccg gggaaagggg gtcattgggtc aggtgtgttc
3780
tgtgtgccc cctccagggc aggggtcaaa gtccgactcc cgcgcccgcc aagaagccgc
3840
tttccgctgg ccgcagccg ccgcgacttc ggcacagttt ctccctctgg ctagtctccc
3900
aaacggtttc cctctcccct tgccccgacc cccctccac agccacagcc cccgccccct
3960
ccaccttgta cataatgtat aggaaaagtc tatgtatggc tggggggggg ggggtggctt
4020
cagagagctg ggggaccct tcccccaag tccccctgc aggccaaagat ctttgctaaa
4080
ggccattccc tccgcagggc atttggcgtc ggggtgggagg ggaaaacgca tcttgtaaat
4140
tatttttaat cttatttatt gtacatacct ggggcagggg cttggggagg tggagggggg
4200
agaagggtcc cctctctctg cccctccac tccttttcta cggcgatttg tctgtgtctg
4260
gccccaccc actgcccac cccattgtt gtctggatgt ggttctattt tttatcggtc
4320
tcctttcccc tcctcccgt tctgcccccc gccccaccc ctgctccac tacccttgt
4380
ctcttgcctt ttcttgggct tctgtacaac tcaacttgta tacactgtgt acacacaacc
4440
agccaaacga aaacccaacg gcaaacactt taccggcagg ctggagtgc tctgtcctgc
4500

ggcgctggag tgggtggcag tggtagcagg ggcagagggt ctggaacggg actttcccag
 4560
 agccctgggc agtggggggc ctgaggctgg catatgttct gtgtccccgc acagcagagt
 4620
 atcccaccct gaaatttaat gacttcagac aacaaatatt tatcactggg gggtttcttt
 4680
 tgttttttag ctaaagacag ggtctcgctc tgtcacccag gttggagtgc agtggcatga
 4740
 tca
 4743

<210> 4170

<211> 900

<212> PRT

<213> Homo sapiens

<400> 4170

Val	Val	Met	Glu	Gln	Leu	Pro	Gly	Val	Pro	Pro	Gly	Pro	Pro	His	Pro
1				5					10					15	
Val	Arg	Pro	Pro	Pro	Pro	Pro	Pro	Pro	Pro	Met	Pro	Leu	Gln	Leu	Glu
		20						25					30		
Ala	His	Leu	Arg	Ser	His	Gly	Leu	Glu	Pro	Ala	Ala	Pro	Ser	Pro	Arg
		35					40					45			
Leu	Arg	Pro	Glu	Glu	Ser	Leu	Asp	Pro	Pro	Gly	Ala	Met	Gln	Glu	Leu
	50					55					60				
Leu	Gly	Ala	Leu	Glu	Pro	Leu	Pro	Pro	Ala	Pro	Gly	Asp	Thr	Gly	Val
65					70					75				80	
Gly	Pro	Pro	Asn	Ser	Glu	Gly	Lys	Asp	Pro	Ala	Gly	Ala	Tyr	Arg	Ser
			85					90						95	
Pro	Ser	Pro	Gln	Gly	Thr	Lys	Ala	Pro	Arg	Phe	Val	Pro	Leu	Thr	Ser
		100						105					110		
Ile	Cys	Phe	Pro	Asp	Ser	Leu	Leu	Gln	Asp	Glu	Glu	Arg	Ser	Phe	Phe
	115					120						125			
Pro	Thr	Met	Glu	Glu	Met	Phe	Gly	Gly	Gly	Ala	Ala	Asp	Asp	Tyr	Gly
	130					135				140					
Lys	Ala	Gly	Pro	Pro	Glu	Asp	Glu	Gly	Asp	Pro	Lys	Ala	Gly	Ala	Gly
145					150				155					160	
Pro	Pro	Pro	Gly	Pro	Pro	Ala	Tyr	Asp	Pro	Tyr	Gly	Pro	Tyr	Cys	Pro
			165					170					175		
Gly	Arg	Ala	Ser	Gly	Ala	Gly	Pro	Glu	Thr	Pro	Gly	Leu	Gly	Leu	Asp
		180					185					190			
Pro	Asn	Lys	Pro	Pro	Glu	Leu	Pro	Ser	Thr	Val	Asn	Ala	Glu	Pro	Leu
	195					200						205			
Gly	Leu	Ile	Gln	Ser	Gly	Pro	His	Gln	Ala	Ala	Pro	Pro	Pro	Pro	Pro
	210					215				220					
Pro	Pro	Pro	Pro	Pro	Pro	Ala	Pro	Ala	Ser	Glu	Pro	Lys	Gly	Gly	Leu
225					230					235				240	
Thr	Ser	Pro	Ile	Phe	Cys	Ser	Thr	Lys	Pro	Lys	Lys	Leu	Leu	Lys	Thr
			245					250					255		
Ser	Ser	Phe	His	Leu	Leu	Arg	Arg	Arg	Asp	Pro	Pro	Phe	Gln	Thr	Pro
		260					265					270			
Lys	Lys	Leu	Tyr	Ala	Gln	Glu	Tyr	Glu	Phe	Glu	Ala	Asp	Glu	Asp	Lys
		275				280						285			
Ala	Asp	Val	Pro	Ala	Asp	Ile	Arg	Leu	Asn	Pro	Arg	Arg	Leu	Pro	Asp


```

      290              295              300
Leu Val Ser Ser Cys Arg Ser Arg Pro Ala Leu Ser Pro Leu Gly Asp
305              310              315              320
Ile Asp Phe Cys Leu Pro Asn Pro Gly Pro Asp Gly Pro Arg Arg Arg
      325              330              335
Gly Arg Lys Pro Thr Lys Ala Lys Arg Asp Gly Pro Pro Arg Pro Arg
      340              345              350
Gly Arg Pro Arg Ile Arg Pro Leu Glu Val Pro Thr Thr Ala Gly Pro
      355              360              365
Ala Ser Ala Ser Thr Pro Thr Asp Gly Ala Lys Lys Pro Arg Gly Arg
      370              375              380
Gly Arg Gly Arg Gly Arg Lys Ala Glu Glu Ala Gly Gly Thr Arg Leu
385              390              395              400
Glu Pro Leu Lys Pro Leu Lys Ile Lys Leu Ser Val Pro Lys Ala Gly
      405              410              415
Glu Gly Leu Gly Thr Ser Ser Gly Asp Ala Ile Ser Gly Thr Asp His
      420              425              430
Asn Ser Leu Asp Ser Ser Leu Thr Arg Glu Lys Ile Glu Ala Lys Ile
      435              440              445
Lys Glu Val Glu Glu Lys Gln Pro Glu Met Lys Ser Gly Phe Met Ala
      450              455              460
Ser Phe Leu Asp Phe Leu Lys Ser Gly Lys Arg His Pro Pro Leu Tyr
465              470              475              480
Gln Ala Gly Leu Thr Pro Pro Leu Ser Pro Pro Lys Ser Val Pro Pro
      485              490              495
Ser Val Pro Ala Arg Gly Leu Gln Pro Gln Pro Pro Ala Thr Pro Ala
      500              505              510
Val Pro His Pro Pro Pro Ser Gly Ala Phe Gly Leu Gly Gly Ala Leu
      515              520              525
Glu Ala Ala Glu Ser Glu Gly Leu Gly Leu Gly Cys Pro Ser Pro Cys
      530              535              540
Lys Arg Leu Asp Glu Glu Leu Lys Arg Asn Leu Glu Thr Leu Pro Ser
545              550              555              560
Phe Ser Ser Asp Glu Glu Asp Ser Val Ala Lys Asn Arg Asp Leu Gln
      565              570              575
Glu Ser Ile Ser Ser Ala Ile Ser Ala Leu Asp Asp Pro Pro Leu Ala
      580              585              590
Gly Pro Lys Asp Thr Ser Thr Pro Asp Gly Pro Pro Leu Ala Pro Ala
      595              600              605
Ala Ala Val Pro Gly Pro Pro Pro Leu Pro Gly Leu Pro Ser Ala Asn
      610              615              620
Ser Asn Gly Thr Pro Glu Pro Pro Leu Leu Glu Glu Lys Pro Pro Pro
625              630              635              640
Thr Pro Pro Pro Ala Pro Thr Pro Gln Pro Gln Pro Pro Pro Pro Pro
      645              650              655
Pro Pro Pro Gln Pro Ala Leu Pro Ser Pro Pro Pro Leu Val Ala Pro
      660              665              670
Thr Pro Ser Ser Pro Pro Pro Pro Pro Leu Pro Pro Pro Pro Pro Pro
      675              680              685
Ala Met Pro Ser Pro Pro Pro Pro Pro Pro Pro Ala Ala Ala Pro Leu
      690              695              700
Ala Ala Pro Pro Glu Glu Pro Ala Ala Pro Ser Pro Glu Asp Pro Glu
705              710              715              720
Leu Pro Asp Thr Arg Pro Leu His Leu Ala Lys Lys Gln Glu Thr Ala

```

725 730 735
 Ala Val Cys Gly Glu Thr Asp Glu Glu Ala Gly Glu Ser Gly Gly Glu
 740 745 750
 Gly Ile Phe Arg Glu Arg Asp Glu Phe Val Ile Arg Ala Glu Asp Ile
 755 760 765
 Pro Ser Leu Lys Leu Ala Leu Gln Thr Gly Arg Glu Pro Pro Pro Ile
 770 775 780
 Trp Arg Val Gln Lys Ala Leu Leu Gln Lys Phe Thr Pro Glu Ile Lys
 785 790 795 800
 Asp Gly Gln Arg Gln Phe Cys Ala Thr Ser Asn Tyr Leu Gly Tyr Phe
 805 810 815
 Gly Asp Ala Lys Asn Arg Tyr Gln Arg Leu Tyr Val Lys Phe Leu Glu
 820 825 830
 Asn Val Asn Lys Lys Asp Tyr Val Arg Val Cys Ala Arg Lys Pro Trp
 835 840 845
 His Arg Pro Pro Val Pro Val Arg Arg Ser Gly Gln Ala Lys Asn Pro
 850 855 860
 Val Ser Ala Gly Gly Ser Ser Ala Pro Pro Pro Lys Ala Pro Ala Pro
 865 870 875 880
 Pro Pro Lys Pro Glu Thr Pro Glu Lys Thr Thr Ser Glu Lys Pro Pro
 885 890 895
 Ala Ala Asp Ser
 900

<210> 4171
 <211> 889
 <212> DNA
 <213> Homo sapiens

<400> 4171
 nngcaggcct tctggtgatc gccagcgctg tcgtctctga gcgtggatcc cagaacctgg
 60
 acagctgtgg cggccgccgt tccccggtcc cgtccagacg ctgtctggcg agatcggacg
 120
 gtgagcctaa ggcggaacgc gtgaggcgct tttgagtctg ggggtccgggg cagagagcag
 180
 gcggaaagag aggggacctg gcagacctcg agtggccgcc gctgcggggc ccaagtcctt
 240
 ggctgctgag tggtagacagt agcccagccc gccggccaga tatgggtccag acctgtacat
 300
 gaataacttt ggtagtcag agtgaaatat tcaataatga gtggtgcagc tttgggactt
 360
 gagattgttt ttgtcttttt tctggcatta tttctgcttc atcgatatgg agactttaag
 420
 aaacagcata gacttgtgat tattggaaca ctgcttgctt ggtatctctg ctttcttatt
 480
 gtcttcatac tgcctctgga tgtagtacg acaatataca accggtgcaa gcatgctgct
 540
 caaattcaag ccctcctgag aatagcaaca ttacaggatt gtgcaactgc taacctgtt
 600
 ccaagccagc atccttgttt caagccatgg agttacattc ctgatggaat catgccaatt
 660
 ttctggaggg tagtgtattg gacgtcaciaa tttttaacat ggattctctt accttttatg
 720

cagtcatatg caagatcagg agggttttcc atcactggaa agatcaaaac tgcactaatt
 780
 gagaatgcaa tctactatgg cacctatttg ctgatttttg gagcattttt aatttatgta
 840
 gctgtaaacc cacatttaca tttagaatgg aaccagcttc agacaattg
 889

<210> 4172

<211> 184

<212> PRT

<213> Homo sapiens

<400> 4172

Met	Ser	Gly	Ala	Ala	Leu	Gly	Leu	Glu	Ile	Val	Phe	Val	Phe	Phe	Leu
1				5				10						15	
Ala	Leu	Phe	Leu	Leu	His	Arg	Tyr	Gly	Asp	Phe	Lys	Lys	Gln	His	Arg
			20					25					30		
Leu	Val	Ile	Ile	Gly	Thr	Leu	Leu	Ala	Trp	Tyr	Leu	Cys	Phe	Leu	Ile
		35				40						45			
Val	Phe	Ile	Leu	Pro	Leu	Asp	Val	Ser	Thr	Thr	Ile	Tyr	Asn	Arg	Cys
	50					55					60				
Lys	His	Ala	Ala	Gln	Ile	Gln	Ala	Leu	Leu	Arg	Ile	Ala	Thr	Leu	Gln
65				70						75				80	
Asp	Cys	Ala	Thr	Ala	Asn	Pro	Val	Pro	Ser	Gln	His	Pro	Cys	Phe	Lys
				85					90					95	
Pro	Trp	Ser	Tyr	Ile	Pro	Asp	Gly	Ile	Met	Pro	Ile	Phe	Trp	Arg	Val
			100					105						110	
Val	Tyr	Trp	Thr	Ser	Gln	Phe	Leu	Thr	Trp	Ile	Leu	Leu	Pro	Phe	Met
			115				120						125		
Gln	Ser	Tyr	Ala	Arg	Ser	Gly	Gly	Phe	Ser	Ile	Thr	Gly	Lys	Ile	Lys
			130			135					140				
Thr	Ala	Leu	Ile	Glu	Asn	Ala	Ile	Tyr	Tyr	Gly	Thr	Tyr	Leu	Leu	Ile
145				150						155				160	
Phe	Gly	Ala	Phe	Leu	Ile	Tyr	Val	Ala	Val	Asn	Pro	His	Leu	His	Leu
				165					170					175	
Glu	Trp	Asn	Gln	Leu	Gln	Thr	Ile								
				180											

<210> 4173

<211> 404

<212> DNA

<213> Homo sapiens

<400> 4173

tgatcatctc ccaaaggctt cactccaaat atcatcacat tgcggattac agattcaaca
 60
 taggaatttg gggggacaca gacattcagt ccatagtagc aagcttaagg tttctggggg
 120
 ctagagacaa aatgttccga ttagtggtgct tcagtttcat catgagattt aatagtaata
 180
 actacgttat ggaatgggtt gagaatttaa tgagtaacct ggagctgggc acccctgtgt
 240
 caaagtgcgc tagggcactg gggttcggcta aaggcccatt gctatgctgc tgcgtgcagg
 300

catggcatct acaagatgga gactctttcc tgacacacga ccattactac atgctaaatg
 360
 acctcccaga ctctagctcg cctgtggctg ccacctttat gttt
 404

<210> 4174
 <211> 91
 <212> PRT
 <213> Homo sapiens

<400> 4174
 Met Phe Arg Leu Val Cys Phe Ser Phe Ile Met Arg Phe Asn Ser Asn
 1 5 10 15
 Asn Tyr Val Met Glu Trp Phe Glu Asn Leu Met Ser Asn Leu Glu Leu
 20 25 30
 Gly Thr Pro Val Ser Lys Cys Ala Arg Ala Leu Gly Ser Ala Lys Gly
 35 40 45
 Pro Leu Leu Cys Cys Cys Val Gln Ala Trp His Leu Gln Asp Gly Asp
 50 55 60
 Ser Phe Leu Thr His Asp His Tyr Tyr Met Leu Asn Asp Leu Pro Asp
 65 70 75 80
 Ser Ser Ser Pro Val Ala Ala Thr Phe Met Phe
 85 90

<210> 4175
 <211> 2778
 <212> DNA
 <213> Homo sapiens

<400> 4175
 aattccttaa ctttggaggc agtgaaacga ctaatagcag aaggtaataa agaagaacta
 60
 cgaaaatggt ttggggcccc aatggagtgt gggacagctg gcctccgagc tgctatggga
 120
 cctggaattt ctcgtatgaa tgacttgacc atcatccaga ctacacaggg attttgcaga
 180
 tacctggaaa aacaattcag tgacttaaag cagaaaggca tcgtgatcag ttttgacgcc
 240
 cgagctcatc catccagtgg gggtagcagc agaaggtttg cccgacttgc tgcaaccaca
 300
 tttatcagtc aggggattcc tgtgtacctc ttttctgata taacgccaac cccctttgtg
 360
 cccttcacag tatcacattt gaaactttgt gctggaatca tgataactgc atctcacaat
 420
 ccaaagcagg ataatgggta taaggcttat tgggataatg gagctcagat catttctcct
 480
 cacgataaag ggatttctca agctattgaa gaaaatctag aaccgtggcc tcaagcttgg
 540
 gacgattctt taattgatag cagtccactt ctccacaatc cgagtgtctc catcaataat
 600
 gactactttg aagaccttaa aaagtactgt ttccacagga gcgtgaacag ggagacaaa
 660
 gtgaagtttg tgcacacctc tgtccatggg gtgggtcata gctttgtgca gtcagctttc
 720

aaggcttttn gacctgttc ctccnntgag gctgttcctg aacagaaaga tccggatcct
780
gagtttccaa cagtgaata cccgaatccc gaagagggga aagggtgtctt gactttgtct
840
tttgctttgg ctgacaaaac caaggccaga attgttttag ctaacgaccc ggatgctgat
900
agacttgctg tggcagaaaa gcaagacagt ggtgaatgga ggggtgttttc aggcaatgag
960
ttggggggccc tcctgggctg gtggcttttt acatcttgga aagagaagaa ccaggatcgc
1020
agtgtcttca aagacacgta catgttgtcc agcaccgtct cctccaaaat cttgcggggc
1080
attgccttaa aggaaggttt tcattttgag gaaacattaa ctggctttaa gtggatggga
1140
aacagagcca aacagctaata agaccagggg aaaactgttt tatttgcatt tgaagaagct
1200
attggataca tgtgtgcccc ttttgttctg gacaaagatg gagtcaagtgc cgctgtcata
1260
agtgcagagt tggctagctt cctagcaacc aagaatttgt ctttgtctca gcaactaaag
1320
gccatttatg tggagtatgg ctaccatatt actaaagctt cctattttat ctgccatgat
1380
caagaaacca ttaagaaatt atttgaaaac ctacagaaact acgatggaaa aaataattat
1440
ccaaaagctt gtggcaaatt tgaattttct gccattaggg accttacaac tggctatgat
1500
gatagccaac ctgataaaaa agctgttctt cccactagta aaagcagcca aatgatcacc
1560
ttcacctttg ctaatggagg cgtggccacc atgcgcacca gtgggacaga gccccaaatc
1620
aagtactatg cagagctgtg tgccccacct gggaacagtg atcctgagca gctgaagaag
1680
gaactgaatg aactggtcag tgctattgaa gaacattttt tccagccaca gaagtacaat
1740
ctgcagccaa aagcagacta aaatagtcca gccttgggta tacttgcatt tacctacaat
1800
taagctgggt ttaacttggt aagcaatatt tttaagggcc aaatgattca aaacatcaca
1860
ggtatttatg tgttttacia agacctacat tcctcattgt ttcattgttg acctttaagg
1920
tgaaaaaaga aaatggccaa acccaacaaa ctaacattcc tactaaaaag ttgagcttgg
1980
acataatttg aatttttgta agtgaagatt tttaaactga ctaacttaaa aaaatagatt
2040
gtaattgatg tgccttaatt tgcataaatc ataaatgtat gtcctctctg taattgtttt
2100
aatgtgtgct tgaaatatcc agaaaaccta tggagttagt aaattctggg ctgtcatatg
2160
taggatagcc acttttttag tatatgtaca ttatattttc tatcaattcc ttagaaagta
2220
aaataaatga atagatcaaa tgttgtgttc atgtttgggg aaaatataat ttgcagaaac
2280
ctatgaagta gagcaaagat gctttaaaaa gataagtttt tttgaactaa atttttttta
2340

gttctaataa tgcacatagg atattagtag atcgtacacg tgctaggaaa aaacagcttc
 2400
 agtgtctttg tttaatgtgt tgaaactcat ctttttaa at cttgaaaaac caattgttta
 2460
 cttgaaactt gaaagtagca tatttttctg ttttttggtt gtttgttcat ttgtattagc
 2520
 acaattta at gtaattcctg gtttggaggc agcaagacct atgagcaaga actatttact
 2580
 tgaccctcgg ttttttctct tggtcttggt tggtctgaaa tctaaaacta gactttatta
 2640
 tgataggatt cctataagcc aattttcta tacaatagaa ttattattta atccgtacct
 2700
 ttcattcttc tcataatcgt ggggattacc ggcctcccaa aaaactccgt tgggggaccc
 2760
 tggggctggg gttccaac
 2778

<210> 4176

<211> 586

<212> PRT

<213> Homo sapiens

<400> 4176

Asn	Ser	Leu	Thr	Leu	Glu	Ala	Val	Lys	Arg	Leu	Ile	Ala	Glu	Gly	Asn
1				5					10				15		
Lys	Glu	Glu	Leu	Arg	Lys	Cys	Phe	Gly	Ala	Arg	Met	Glu	Phe	Gly	Thr
			20					25				30			
Ala	Gly	Leu	Arg	Ala	Ala	Met	Gly	Pro	Gly	Ile	Ser	Arg	Met	Asn	Asp
		35					40				45				
Leu	Thr	Ile	Ile	Gln	Thr	Thr	Gln	Gly	Phe	Cys	Arg	Tyr	Leu	Glu	Lys
	50				55					60					
Gln	Phe	Ser	Asp	Leu	Lys	Gln	Lys	Gly	Ile	Val	Ile	Ser	Phe	Asp	Ala
65				70				75						80	
Arg	Ala	His	Pro	Ser	Ser	Gly	Gly	Ser	Ser	Arg	Arg	Phe	Ala	Arg	Leu
			85					90				95			
Ala	Ala	Thr	Thr	Phe	Ile	Ser	Gln	Gly	Ile	Pro	Val	Tyr	Leu	Phe	Ser
		100					105					110			
Asp	Ile	Thr	Pro	Thr	Pro	Phe	Val	Pro	Phe	Thr	Val	Ser	His	Leu	Lys
	115					120					125				
Leu	Cys	Ala	Gly	Ile	Met	Ile	Thr	Ala	Ser	His	Asn	Pro	Lys	Gln	Asp
	130				135					140					
Asn	Gly	Tyr	Lys	Val	Tyr	Trp	Asp	Asn	Gly	Ala	Gln	Ile	Ile	Ser	Pro
145				150				155						160	
His	Asp	Lys	Gly	Ile	Ser	Gln	Ala	Ile	Glu	Glu	Asn	Leu	Glu	Pro	Trp
		165						170				175			
Pro	Gln	Ala	Trp	Asp	Asp	Ser	Leu	Ile	Asp	Ser	Ser	Pro	Leu	Leu	His
		180					185					190			
Asn	Pro	Ser	Ala	Ser	Ile	Asn	Asn	Asp	Tyr	Phe	Glu	Asp	Leu	Lys	Lys
	195					200					205				
Tyr	Cys	Phe	His	Arg	Ser	Val	Asn	Arg	Glu	Thr	Lys	Val	Lys	Phe	Val
	210					215				220					
His	Thr	Ser	Val	His	Gly	Val	Gly	His	Ser	Phe	Val	Gln	Ser	Ala	Phe
225				230				235						240	
Lys	Ala	Phe	Xaa	Pro	Cys	Ser	Ser	Xaa	Glu	Ala	Val	Pro	Glu	Gln	Lys

```

                245                250                255
Asp Pro Asp Pro Glu Phe Pro Thr Val Lys Tyr Pro Asn Pro Glu Glu
                260                265                270
Gly Lys Gly Val Leu Thr Leu Ser Phe Ala Leu Ala Asp Lys Thr Lys
                275                280                285
Ala Arg Ile Val Leu Ala Asn Asp Pro Asp Ala Asp Arg Leu Ala Val
                290                295                300
Ala Glu Lys Gln Asp Ser Gly Glu Trp Arg Val Phe Ser Gly Asn Glu
305                310                315                320
Leu Gly Ala Leu Leu Gly Trp Trp Leu Phe Thr Ser Trp Lys Glu Lys
                325                330                335
Asn Gln Asp Arg Ser Ala Leu Lys Asp Thr Tyr Met Leu Ser Ser Thr
                340                345                350
Val Ser Ser Lys Ile Leu Arg Ala Ile Ala Leu Lys Glu Gly Phe His
                355                360                365
Phe Glu Glu Thr Leu Thr Gly Phe Lys Trp Met Gly Asn Arg Ala Lys
                370                375                380
Gln Leu Ile Asp Gln Gly Lys Thr Val Leu Phe Ala Phe Glu Glu Ala
385                390                395                400
Ile Gly Tyr Met Cys Cys Pro Phe Val Leu Asp Lys Asp Gly Val Ser
                405                410                415
Ala Ala Val Ile Ser Ala Glu Leu Ala Ser Phe Leu Ala Thr Lys Asn
                420                425                430
Leu Ser Leu Ser Gln Gln Leu Lys Ala Ile Tyr Val Glu Tyr Gly Tyr
                435                440                445
His Ile Thr Lys Ala Ser Tyr Phe Ile Cys His Asp Gln Glu Thr Ile
                450                455                460
Lys Lys Leu Phe Glu Asn Leu Arg Asn Tyr Asp Gly Lys Asn Asn Tyr
465                470                475                480
Pro Lys Ala Cys Gly Lys Phe Glu Ile Ser Ala Ile Arg Asp Leu Thr
                485                490                495
Thr Gly Tyr Asp Asp Ser Gln Pro Asp Lys Lys Ala Val Leu Pro Thr
                500                505                510
Ser Lys Ser Ser Gln Met Ile Thr Phe Thr Phe Ala Asn Gly Gly Val
                515                520                525
Ala Thr Met Arg Thr Ser Gly Thr Glu Pro Lys Ile Lys Tyr Tyr Ala
                530                535                540
Glu Leu Cys Ala Pro Pro Gly Asn Ser Asp Pro Glu Gln Leu Lys Lys
545                550                555                560
Glu Leu Asn Glu Leu Val Ser Ala Ile Glu Glu His Phe Phe Gln Pro
                565                570                575
Gln Lys Tyr Asn Leu Gln Pro Lys Ala Asp
                580                585

```

<210> 4177

<211> 4763

<212> DNA

<213> Homo sapiens

<400> 4177

```

tttttttttt tttttttttt tttttttttt tttttttttt tttgaagcaa taaaagcaca
60
gatttattga agcaaaagta tattccacag agtgggagca ggctaaagca agctgctcaa
120

```

gagccccagt tgcaaaatct ggggtttaag tacccttttag gggtttccta ttggttacac
180
cctatgcgcc accaatcgga ggccgaagtg aaggctccca gtctccagac tcttattctc
240
ctagctcaaa gaaatccact gatttctctct gtagcatctt caggttccat cttgacaact
300
tcctctaaat ccccagggga agagttgttt agagactcct ggatgccctg agggagcggc
360
tccagagctt gccttccctc ctctgttttc acaacgggtcc agcgataggc actgttctct
420
gacaatcctt cttggcactg tttatcgact ggtggaggcc ctgggctatg ttccactttg
480
gggaaaacag tagcagagag aggagatagt tcctggggct ctaatttggg ttctaggccc
540
tgaaaggcat tttcccatc agccacagca caagcaatgt ccacattcat gtgggcctta
600
tcttcagggg tggatggtat aggaagattc acagaattgc cagaaacaat taagggtgag
660
acagaggagg ccacaagggg ctggttcaat ggacagggga aggaagtagg gttaaccaag
720
aggggtggcg tgggaatagt ctggggactc tgggccacag ccgcattgac aggctggatc
780
atgttacagc caccgccaag gctcacaatc ttcacagtgg tagcaggaac agtgaagata
840
acagatgcag ggtggataac aggggcaggt ttgatacagc gaaaggccct ggctcccctt
900
ctttttgagg gtctccgtct cacatatggc tttcgaaaca tggaaagggc aggggagggc
960
atcattacct tgggcacagg ggcagaagag agcaaagtct gggactcaga cagagggaag
1020
cttgctctgg cctcaggggg catagcaggc agtgctgcag gagactcaaa actctcacct
1080
ccactgacct ccagtggagg gacacctgga actgtctgta aaacagtggc tggctgtatt
1140
gggtgaggaa tccggagcac cattttgctc ggaggggctt ctgaatgagt tgattgggct
1200
ggtgttttcc cagggttgaa gctgggctgg agagaggggc tgggttgat aaggaggggt
1260
ttcaggactg atgaacgctt ctgtctccaa gccttcttgg ggaaacggtc ggcaactggc
1320
ttcagtttca ggactacacc cttaggcaat agcagtgggt accgagtttc actccccaac
1380
tctgagttgt ctttttctag gcttcgatct gagttgatct cagtggttcc agtcatattt
1440
cctacctctc tagcaccatc agccatgtgc cgcagttctt cctggatgga tggcagactg
1500
gcctttaacc agaatgggag ccggtgttct tctctctcta taggtggctt cactgatgt
1560
ggctggatct cttcacagca ttttcctagg actggcagct gtttggctt cttataaaat
1620
ttaatgatgt tgtcaggagc tctgttcatt ttgaggttct tgattctcac tgtcagttgg
1680
cgggcagtct tgcaggttag aaggtaactg ctgattagag ggttaagaaa ctcagtcctt
1740

tcaaaatgct tcagtcctaa agctaacaaa ttgtcctcag ccttggtgaa gaggatctta
1800
tcctggggat tctttgcctt cagggaaacac actggaagta actctggata catgaaaacc
1860
ttgcttgtgg ccaggatcca agccacttgc tttggcaaac agggaaattc attggcagtc
1920
ttcttgacag ttttatgagg gctgcagtc atgctgacat gtgtgctgaa gtcttcaatc
1980
agctgcatag ctcccatcaa gttacagggg tggaaacaggg tctgaaactt ggggttgtag
2040
tgatggtgaa gggcgatgga gctttgagca aagggttccca gctctttaag acatatcctg
2100
gtgctactgg cctccggatt gagattgggg ttgcaggtgg caagaagggtg gatttgtgtc
2160
aagagctgaa catgctgctg catctgctgc tggagtctct tcctttgtgc tgggtccaga
2220
atcagggtct gatgaacttc cttacactgg ggtttaacct tctctacttc cttctgctgt
2280
ttggctgaag gtttcttcat cttcagctgt tcaaatagtt cttcgtctat ctgatgttgt
2340
tcatttagta ggttggccag tagttcctca aaccgtagag cttgaggggt gttaaagtta
2400
gcttgaggct cagccacacg ctctctctct tctgggcat catcttccat gttggagaat
2460
cccatctcat cttggaagt ttcaaacaga tcttccatca gctcatttac ttccttttcg
2520
tgtcggaggc cgaggccgaa gccgagagcg atgagagtac agggaaagtga ggaagagggg
2580
gtggccgcca ggctcctccg cttccctggg tccaccgag atcctccgc ttgtcaggag
2640
gcgccacggt ctcaggacgg gcgctttgga gccggcccca ggcagcgtgt gtcggctgcc
2700
tagtctggag aactagtcct cgactcacgg tgagggaatg gaccgacacg ggtattgtac
2760
cgctgaggga aaggagcggg actccggacc tccaggagtg caaggatgat gctgaaagga
2820
ataacaaggc ttatctctag gatccataag ttggaccctg ggcgtttttt acacatgggg
2880
acccaggctc gccaaagcat tgctgctcac ctagataacc aggttccagt tgagagtccg
2940
agagctatct cccgcaccaa tgagaatgac ccggccaagc atggggatca gcacgagggg
3000
cagcactaca acatctcccc ccaggatttg gagactgtat ttccccatgg ccttctctct
3060
cgctttgtga tgcaggtgaa gacattcagt gaagcttgcc tgatggtaag gaaaccagcc
3120
ctagaacttc tgcattacct gaaaaacacc agttttgctt atccagctat acgatatctt
3180
ctgtatggag agaagggaac aggaaaaacc ctaagtcttt gccatgtttt tcatttctgt
3240
gcaaaacagg actggctgat actacatatt ccagatgctc atctttgggt gaaaaattgt
3300
cgggatcttc tgcagtccag ctacaacaaa cagcgctttg atcaaccttt agaggcttca
3360

acctggctga agaatttcaa aactacaaat gagcgcttcc tgaaccagat aaaagttcaa
3420
gagaagtatg tctggaataa gagagaactc actgagaaaag ggagtcctct gggagaagtg
3480
gttgaacagg gcataacacg ggtgaggaac gccacagatg cagttggaat tgtgctgaaa
3540
gagctaaaga ggcaaagttc tttgggtatg tttcacctcc tagtggccgt ggatggaatc
3600
aatgctcttt ggggaagaac cactctgaaa agagaagata aaagcccgat tgcccccgag
3660
gaattagcac ttgttcacaa cttgaggaaa atgatgaaaa atgattggca tggaggcgcc
3720
attgtgtcgg ctttgagcca gactgggtct ctctttaagc cccgaaaagc ctatctgccc
3780
caggagttgc tgggaaagga aggatttgat gccctggatc cctttattcc catcctggtt
3840
tccaactata acccaaagga atttgaaagt tgtattcagt attatttga aaacaattgg
3900
cttcaacatg agaaagctcc tacagaagaa gggaaaaaag agctgctgtt cctaagtaac
3960
gcgaaccctc cgctgctgga gcggcactgt gcctacctct aagccaagat cacagcatgt
4020
gaggaagaca gtggacatct gctttatgct ggaccagta agatgaggaa gtcgggcagt
4080
acacaggaag aggagccagg cccttggtacc tatgggattg gacaggactg cagttggctc
4140
tggacctgca ttaaaatggg tttcactgtg aatgcgtgac aataagatat tcccttgttc
4200
ctaaaacttt atatcagttt attggatgtg gtttttcaca ttttaagataa ttatggctct
4260
tttcctaaaa aataaaatat ctttctaaag tgttggtgta gattaataat atggaaggag
4320
tcttttagatt ggccaaattg catttctctg atattcctct tgttgccaggc cagaagagat
4380
caattctaca gaaatttcca gtggttctgt tgaggcttta tggaattcag catgtcaaaa
4440
ttcacagctg gctgggcaca gtggctcatg cctgtaatcc cagcactttg gaagcccaag
4500
gcgggcagac tgcttgagtt caggagtttg caaccagcct gggcaacatg gtgaaaacct
4560
gtctctacta aaaatacaaa aattagccgg gcacgtgtgc atgcgcctgt agtccaagct
4620
acttgggagg ctgaggcagg agaattgctt caacttggga ggcggatgtt gcagtgagcc
4680
aaaattgcac cactgcactc cagcctgggc agcagagcaa gactccgtct caaaataaat
4740
aaataaataa ataaataaat aaa
4763

<210> 4178

<211> 398

<212> PRT

<213> Homo sapiens

<400> 4178

```

Met Met Leu Lys Gly Ile Thr Arg Leu Ile Ser Arg Ile His Lys Leu
 1           5           10           15
Asp Pro Gly Arg Phe Leu His Met Gly Thr Gln Ala Arg Gln Ser Ile
      20           25           30
Ala Ala His Leu Asp Asn Gln Val Pro Val Glu Ser Pro Arg Ala Ile
      35           40           45
Ser Arg Thr Asn Glu Asn Asp Pro Ala Lys His Gly Asp Gln His Glu
      50           55           60
Gly Gln His Tyr Asn Ile Ser Pro Gln Asp Leu Glu Thr Val Phe Pro
      65           70           75           80
His Gly Leu Pro Pro Arg Phe Val Met Gln Val Lys Thr Phe Ser Glu
      85           90           95
Ala Cys Leu Met Val Arg Lys Pro Ala Leu Glu Leu Leu His Tyr Leu
      100          105          110
Lys Asn Thr Ser Phe Ala Tyr Pro Ala Ile Arg Tyr Leu Leu Tyr Gly
      115          120          125
Glu Lys Gly Thr Gly Lys Thr Leu Ser Leu Cys His Val Phe His Phe
      130          135          140
Cys Ala Lys Gln Asp Trp Leu Ile Leu His Ile Pro Asp Ala His Leu
      145          150          155          160
Trp Val Lys Asn Cys Arg Asp Leu Leu Gln Ser Ser Tyr Asn Lys Gln
      165          170          175
Arg Phe Asp Gln Pro Leu Glu Ala Ser Thr Trp Leu Lys Asn Phe Lys
      180          185          190
Thr Thr Asn Glu Arg Phe Leu Asn Gln Ile Lys Val Gln Glu Lys Tyr
      195          200          205
Val Trp Asn Lys Arg Glu Leu Thr Glu Lys Gly Ser Pro Leu Gly Glu
      210          215          220
Val Val Glu Gln Gly Ile Thr Arg Val Arg Asn Ala Thr Asp Ala Val
      225          230          235          240
Gly Ile Val Leu Lys Glu Leu Lys Arg Gln Ser Ser Leu Gly Met Phe
      245          250          255
His Leu Leu Val Ala Val Asp Gly Ile Asn Ala Leu Trp Gly Arg Thr
      260          265          270
Thr Leu Lys Arg Glu Asp Lys Ser Pro Ile Ala Pro Glu Glu Leu Ala
      275          280          285
Leu Val His Asn Leu Arg Lys Met Met Lys Asn Asp Trp His Gly Gly
      290          295          300
Ala Ile Val Ser Ala Leu Ser Gln Thr Gly Ser Leu Phe Lys Pro Arg
      305          310          315          320
Lys Ala Tyr Leu Pro Gln Glu Leu Leu Gly Lys Glu Gly Phe Asp Ala
      325          330          335
Leu Asp Pro Phe Ile Pro Ile Leu Val Ser Asn Tyr Asn Pro Lys Glu
      340          345          350
Phe Glu Ser Cys Ile Gln Tyr Tyr Leu Glu Asn Asn Trp Leu Gln His
      355          360          365
Glu Lys Ala Pro Thr Glu Glu Gly Lys Lys Glu Leu Leu Phe Leu Ser
      370          375          380
Asn Ala Asn Pro Ser Leu Leu Glu Arg His Cys Ala Tyr Leu
      385          390          395

```

<210> 4179

<211> 2208

<212> DNA

<213> Homo sapiens

<400> 4179

tttttttttt ttttttttgg gaatgttagt gcaatttaat caccataagg gtgactttta
60
aagatacact gatagttaaa aaaaaaagac aattaaaaaa tagcattttg ttttttaaat
120
ggcaccatt aaagactcaa cagtcaaaat gagacaaatc agtccttttag acgttcacag
180
acaattgaaa ggcactttta aaatccactt tttaaactac cacttgagaa cacatggtag
240
cacagtctta aattcatcct agttgatcgg gaatgatgaa tgagtgttgg caccagaaaa
300
tcctgcttgc agaagggggc gcaggtgtcg gtccacggga cagccactgg ccaggctagc
360
tgccgcctca ctccgcagcc ttctgtggct aaatggcagg acggacacac aggaatgggc
420
tttgaccac aagctctggc atatcgggag gcaaagcact caagtactct gcagtctaga
480
tgacacattt catggtttgg aggacagaag taggtttcca catcacatga aaaggacagt
540
gtcacagtgg gggtacccag taaacagcta ccaaagccat catttcacgc ttccctgtag
600
ttttatgagc tcgcctctg catgtggata tggggaaaagc cgggcatgaa ggggtgtgtg
660
aaaaagaaca gcctctgtga ctgactgcag taagctcaca agtttgtcac tgtcagactt
720
agcaagttag cctgcaaagg ttgtgctgat ctcttggcca cactacctac tcaggttccc
780
atccatgcct cctgcctgcc cccaccccca gcccaccag tgagacttct gattggaagt
840
ctatagacat aagaattcaa ctctgaccca tggatgagag gatgaggcaa agaaccaatg
900
ggttatctag taaacgatca ataactacct acccacaatg attgtcccag gccaatgtca
960
caagacgaca ttacttccaa gaaccaagtc atcccttgct tctgcgggac cagtgccacg
1020
ggtactgtcc tgagtggttt ggaaggtggg tagccgctga tacagggaca ggcagatgtg
1080
cagacactta ccaccctggc ccaccgatcc caccatgc ttccacctcc cagagctctt
1140
gagataagac cttaagaagg atccttgggc ttgcattaaa accactttgc tgtccgtgga
1200
ggtctgacag gacccaatag ttgttactac aaaagtgcct ttgcaaatag ggcaagttag
1260
aagaaggagg taatatgaat attctttaga aaaactcaaa tccatcggct tatcaatacc
1320
caaagtctga ggctaccag ggcacaattt ggtccatgga atgctgagtg gaggaggcag
1380
ctgggtgtgag gctgcgcctg actcccagga gcatttagcc atcctttttg gcttggggag
1440
tgtcaaagag ccggactgcc ttctctcaca gcagacagaa ccagtagatc tgaggagcta
1500

cgaggaaggc attggccacg ttgcagtaga atgggatgct gaaggggtact tggagcaggc
 1560
 ttagtccctg ctggcggcca taggaccagt acatgaaggg gaagagaagg atccggcagg
 1620
 aaaggaaggt ggccagcgtg aggattccat tcaccttgta cagaaggggtg tgctgctgct
 1680
 ttagctgaat cagaaccctg cccagcgaca caaacggagt gctcagttct gccgtgaaga
 1740
 tgcagccgac aaagaagtcc ccaaggtctc cccggagcct ctgtgcgact ggcacaagga
 1800
 caaagagaat gaccgcatga tgtgtgatca tgaggcgggt tcgacttagg aagtttcgaa
 1860
 gagtgaggga gggcgcacgg ttctggtctc tggttcggca ccattcacag aggtacatgg
 1920
 cgtacgagtc atagatcatg tatggaatca gaaaccacac atattcccgg gcaagccagt
 1980
 gcctgccggg gatcacgtcg tcgcaggagc gaatgatgac gatccccgag ccgggtggcca
 2040
 gcacggcgtg caccgaggaa accagcctgg tgctgatcat cagcagtcg gtgcggctcc
 2100
 atccgggctg ggagcggcgc agcgcccagg tgcagagcgc gaagagcccc gggaagaaga
 2160
 gcgcgcccc ggccagcgtc agcagcatcg gggctgcggg tccggccg
 2208

<210> 4180

<211> 257

<212> PRT

<213> Homo sapiens

<400> 4180

Met	Leu	Leu	Thr	Leu	Ala	Gly	Gly	Ala	Leu	Phe	Phe	Pro	Gly	Leu	Phe
1				5				10					15		
Ala	Leu	Cys	Thr	Trp	Ala	Leu	Arg	Arg	Ser	Gln	Pro	Gly	Trp	Ser	Arg
			20				25					30			
Thr	Asp	Cys	Val	Met	Ile	Ser	Thr	Arg	Leu	Val	Ser	Ser	Val	His	Ala
			35				40				45				
Val	Leu	Ala	Thr	Gly	Ser	Gly	Ile	Val	Ile	Ile	Arg	Ser	Cys	Asp	Asp
	50					55				60					
Val	Ile	Thr	Gly	Arg	His	Trp	Leu	Ala	Arg	Glu	Tyr	Val	Trp	Phe	Leu
65				70				75					80		
Ile	Pro	Tyr	Met	Ile	Tyr	Asp	Ser	Tyr	Ala	Met	Tyr	Leu	Cys	Glu	Trp
			85					90				95			
Cys	Arg	Thr	Arg	Asp	Gln	Asn	Arg	Ala	Pro	Ser	Leu	Thr	Leu	Arg	Asn
			100				105					110			
Phe	Leu	Ser	Arg	Asn	Arg	Leu	Met	Ile	Thr	His	His	Ala	Val	Ile	Leu
	115					120				125					
Phe	Val	Leu	Val	Pro	Val	Ala	Gln	Arg	Leu	Arg	Gly	Asp	Leu	Gly	Asp
	130					135				140					
Phe	Phe	Val	Gly	Cys	Ile	Phe	Thr	Ala	Glu	Leu	Ser	Thr	Pro	Phe	Val
145				150				155					160		
Ser	Leu	Gly	Arg	Val	Leu	Ile	Gln	Leu	Lys	Gln	Gln	His	Thr	Leu	Leu
			165				170					175			
Tyr	Lys	Val	Asn	Gly	Ile	Leu	Thr	Leu	Ala	Thr	Phe	Leu	Ser	Cys	Arg

[illegible]

```
<210> 4181
<211> 735
<212> DNA
<213> Homo sapiens
```

```

<400> 4181
nagtccggcc ttgtgtgtcac gcgtgcattt ggggtggctgc atggggcacac gcctgtgagg
60
ccagggccgg cccgggtcttc ggttctctggt cttgggtcag gcagcagttc ctgcagactt
120
ttctcactgc tgttcagcaa tatgtctcct ttaaaatagc acccggcggg gatagagttc
180
tctctgtgtc tgctgtttgc caagctggtc agttacacct tcctctactg gctgccctg
240
tacatcgcca atgtgggtca ctttagtgcc aaggaggctg gggacctgtc tacactcttc
300
gatgttggtg gcatcatagg cggcatcggt gcaggggtcg tctctgacta caccaatggc
360
agggccacca cttgctgtgt catgctcatc ttgggtgccc ccatgatgtt cctgtacaac
420
tacattggcc aggacgggat tgccagctcc atagtgatgc tgatcatctg tgggggcctg
480
gtcaatggcc catacgcnt catcaccact gctgtctctg ctgacctggg gactcacaag
540
agcctgaagg gcaacgcca agccctgtcc acgggtcacgg ccatcattga cggcaccggc
600
tccataggtg cggctctggg gcctctgctg gctgggtca tctccccac gggctggaac
660
aatgtcttct acatgctcat ctctgccgac gtcctagcct gcttgctcct ttgccggtta
720
gtatacaaag agatc
735

```

```
<210> 4182
<211> 192
<212> PRT
<213> Homo sapiens
```

```

<400> 4182
His Pro Ala Gly Ile Glu Phe Ser Leu Cys Leu Leu Phe Ala Lys Leu
 1             5             10            15
Val Ser Tyr Thr Phe Leu Tyr Trp Leu Pro Leu Tyr Ile Ala Asn Val

```

```

<400> 4183
tttttttttt ttcaaaggct tatctttatc ttgaacttct tttgagaagc gtcctcttcc
60
aatagctgat tctctctcta ttcgctcaat ttcagccaat gcatccaatt ccacttcate
120
atatataggt ccctgttggtg atatctgttg ttgattctgt accacagaag tctgggggtg
180
ttttgtagca actgaagtgt tctgttgtaa aacaggcact tgatttgctg gaaggaatgc
240
tgtttgttct tgctgcgaca aacattgagc agcattaagt gggcggttta cgtcctgtgg
300
agtaatgggt gtttttgaag tctgtccttg atactgcaca ttaaaaggaa tatcattttc
360
tgaaacattg ctattttcca taccagatag catatcctct tgctggcca tatccgaaga
420
ccttacacga gaaagtctta atgtaagttt agtagagtc ttggatggag aactaattat
480
atcatacatt gccgctttct cactctgctc tttttcatcc ttgcctaatt tcattttctt
540
ctgcttcttt tgttttcttt ctggagaatc tagcaagata tctggtggaa catctcgagg
600
tgatgaacaa ggtagagact gagattgtag gattaaagggt ggtcttgagc ctttaggagt
660
tccttcactt ccagcagggg agcatactgg ctgtggagat ctcaagggaa aagatgcagc
720
attcctcatt gttgaagaat ctccatcgtc actacttagc ctgtgcacca tgtgtaggta
780

```

gtcctcactt gaaccatgtc taggattatc agcatgatga ttagctgaat tgccagacaa
 840
 cggaccagaa actttattat catgtatgtt tctcaaacca cctgcaacaa tgggacttga
 900
 taccgatgct tgttgcatct gtggatgtgt tgtgtaactt gaaggatggg aatatggcat
 960
 gtatcctgca gggctttgtg gggcgtatgg actaggcact gggctatttt gctgtggcat
 1020
 aaatctgttc ccagagcttg tctgtggtgg cacaaaccgg ctggaggggc tatgtgagat
 1080
 agtggtttgt tgataattgg aagatgcagg actactgtgc atggaattc
 1129

<210> 4184

<211> 374

<212> PRT

<213> Homo sapiens

<400> 4184

Met	His	Ser	Ser	Pro	Ala	Ser	Ser	Asn	Tyr	Gln	Gln	Thr	Thr	Ile	Ser
1				5				10						15	
His	Ser	Pro	Ser	Ser	Arg	Phe	Val	Pro	Pro	Gln	Thr	Ser	Ser	Gly	Asn
		20						25					30		
Arg	Phe	Met	Pro	Gln	Gln	Asn	Ser	Pro	Val	Pro	Ser	Pro	Tyr	Ala	Pro
		35				40						45			
Gln	Ser	Pro	Ala	Gly	Tyr	Met	Pro	Tyr	Ser	His	Pro	Ser	Ser	Tyr	Thr
	50					55					60				
Thr	His	Pro	Gln	Met	Gln	Gln	Ala	Ser	Val	Ser	Ser	Pro	Ile	Val	Ala
65				70					75					80	
Gly	Gly	Leu	Arg	Asn	Ile	His	Asp	Asn	Lys	Val	Ser	Gly	Pro	Leu	Ser
			85					90					95		
Gly	Asn	Ser	Ala	Asn	His	His	Ala	Asp	Asn	Pro	Arg	His	Gly	Ser	Ser
		100						105					110		
Glu	Asp	Tyr	Leu	His	Met	Val	His	Arg	Leu	Ser	Ser	Asp	Asp	Gly	Asp
	115						120					125			
Ser	Ser	Thr	Met	Arg	Asn	Ala	Ala	Ser	Phe	Pro	Leu	Arg	Ser	Pro	Gln
	130				135					140					
Pro	Val	Cys	Ser	Pro	Ala	Gly	Ser	Glu	Gly	Thr	Pro	Lys	Gly	Ser	Arg
145				150					155					160	
Pro	Pro	Leu	Ile	Leu	Gln	Ser	Gln	Ser	Leu	Pro	Cys	Ser	Ser	Pro	Arg
			165					170						175	
Asp	Val	Pro	Pro	Asp	Ile	Leu	Leu	Asp	Ser	Pro	Glu	Arg	Lys	Gln	Lys
		180						185					190		
Lys	Gln	Lys	Lys	Met	Lys	Leu	Gly	Lys	Asp	Glu	Lys	Glu	Gln	Ser	Glu
	195					200						205			
Lys	Ala	Ala	Met	Tyr	Asp	Ile	Ile	Ser	Ser	Pro	Ser	Lys	Asp	Ser	Thr
	210				215					220					
Lys	Leu	Thr	Leu	Arg	Leu	Ser	Arg	Val	Arg	Ser	Ser	Asp	Met	Asp	Gln
225				230					235					240	
Gln	Glu	Asp	Met	Leu	Ser	Gly	Met	Glu	Asn	Ser	Asn	Val	Ser	Glu	Asn
			245					250						255	
Asp	Ile	Pro	Phe	Asn	Val	Gln	Tyr	Gln	Gly	Gln	Thr	Ser	Lys	Thr	Pro
	260							265					270		
Ile	Thr	Pro	Gln	Asp	Val	Asn	Arg	Pro	Leu	Asn	Ala	Ala	Gln	Cys	Leu

275	280	285
Ser Gln Gln Glu Gln Thr Ala Phe Leu Pro Ala Asn Gln Val Pro Val		
290	295	300
Leu Gln Gln Asn Thr Ser Val Ala Thr Lys Gln Pro Gln Thr Ser Val		
305	310	315
Val Gln Asn Gln Gln Gln Ile Ser Gln Gln Gly Pro Ile Tyr Asp Glu		
325	330	335
Val Glu Leu Asp Ala Leu Ala Glu Ile Glu Arg Ile Glu Arg Glu Ser		
340	345	350
Ala Ile Glu Arg Glu Arg Phe Ser Lys Glu Val Gln Asp Lys Asp Lys		
355	360	365
Pro Leu Lys Lys Lys Lys		
370		

<210> 4185

<211> 1481

<212> DNA

<213> Homo sapiens

<400> 4185

```

ntggtgttta agagtttga caaaaagaat gatggacgca ttgacgcgca ggagatcatg
60
cagtccttgc gggacttggg agtcaagata tctgaacagc aggcagaaaa aattctcaag
120
agcatggata aaaacggcac gatgaccatc gactggaacg agtggagaga ctaccacctc
180
ctccaccccg tggaaaacat ccccgagatc atcctctact ggaagcattc cacgatcttt
240
gatgtgggtg agaatctaac ggtcccggat gagttcacag tggaggagag gcagacgggg
300
atgtggtgga gacacctggt ggcaggaggt ggggcagggg ccgtatccag aacctgcacg
360
gcccccttg acaggetcaa ggtgctcatg cagggtccatg cctcccgag caacaacatg
420
ggcatcggtg gtggcttcac tcagatgatt cgagaaggag gggccaggtc actctggcgg
480
ggcaatggca tcaacgtcct caaaattgcc cccgaatcag ccatcaaatt catggcctat
540
gagcagatca agcgccttgt tggtagtgac caggagactc tgaggattca cgagaggctt
600
gtggcagggt ccttggcagg ggccatcgcc cagagcagca tctacccaat ggaggtcctg
660
aagacccgga tggcgctgcg gaagacaggc cagtactcag gaatgctgga ctgcgccagg
720
aggatcctgg ccagagaggg ggtggccgcc ttctacaaag gctatgtccc caacatgctg
780
ggcatcatcc cctatgccgg catcgacctt gcagtctacg agacgctcaa gaatgcctgg
840
ctgcagcact atgcagtga cagcgcggac cccggcggtg ttgtgctcct ggctgtggc
900
accatgtcca gtacctgtgg ccagctggcc agctaccccc tggccctagt caggaccggg
960
atgcaggcgc aagcctctat tgagggcgct ccggagggtga ccatgagcag cctcttcaaa
1020

```

catatcctgc ggaccgaggg ggccttcggg ctgtacaggg ggctggcccc caacttcattg
 1080
 aaggatcatcc cagctgtgag catcagctac gtggtctacg agaacctgaa gatcaccctg
 1140
 ggcgtgcagt cgcggtgacg gggggagggc cggccggcag tggactcgct gatcctgggc
 1200
 cgcagcctgg ggtgtgcagc catctcattc tgtgaatgtg ccaacactaa gctgtctcga
 1260
 gccaaagctgt gaaaacccta gacgcacccg cagggagggg ggggagagct ggcaggccca
 1320
 gggcttgtcc tgetgacccc agcagaccct cctgttggtt ccagcgaaga ccacaggcat
 1380
 tccttagggg ccagggtcag caggctccgg gctcacatgt gtaaggacag gacattttct
 1440
 gcagtgcctg ccaatagtga gcttggagcc tggaggccgg c
 1481

<210> 4186

<211> 385

<212> PRT

<213> Homo sapiens

<400> 4186

Xaa	Val	Phe	Lys	Ser	Leu	Asp	Lys	Lys	Asn	Asp	Gly	Arg	Ile	Asp	Ala
1				5					10					15	
Gln	Glu	Ile	Met	Gln	Ser	Leu	Arg	Asp	Leu	Gly	Val	Lys	Ile	Ser	Glu
			20					25					30		
Gln	Gln	Ala	Glu	Lys	Ile	Leu	Lys	Ser	Met	Asp	Lys	Asn	Gly	Thr	Met
		35					40					45			
Thr	Ile	Asp	Trp	Asn	Glu	Trp	Arg	Asp	Tyr	His	Leu	His	Pro	Val	
	50				55					60					
Glu	Asn	Ile	Pro	Glu	Ile	Leu	Tyr	Trp	Lys	His	Ser	Thr	Ile	Phe	
65				70					75					80	
Asp	Val	Gly	Glu	Asn	Leu	Thr	Val	Pro	Asp	Glu	Phe	Thr	Val	Glu	Glu
			85						90					95	
Arg	Gln	Thr	Gly	Met	Trp	Trp	Arg	His	Leu	Val	Ala	Gly	Gly	Gly	Ala
		100					105						110		
Gly	Ala	Val	Ser	Arg	Thr	Cys	Thr	Ala	Pro	Leu	Asp	Arg	Leu	Lys	Val
		115				120						125			
Leu	Met	Gln	Val	His	Ala	Ser	Arg	Ser	Asn	Asn	Met	Gly	Ile	Val	Gly
	130				135						140				
Gly	Phe	Thr	Gln	Met	Ile	Arg	Glu	Gly	Gly	Ala	Arg	Ser	Leu	Trp	Arg
145				150						155				160	
Gly	Asn	Gly	Ile	Asn	Val	Leu	Lys	Ile	Ala	Pro	Glu	Ser	Ala	Ile	Lys
			165						170					175	
Phe	Met	Ala	Tyr	Glu	Gln	Ile	Lys	Arg	Leu	Val	Gly	Ser	Asp	Gln	Glu
		180					185						190		
Thr	Leu	Arg	Ile	His	Glu	Arg	Leu	Val	Ala	Gly	Ser	Leu	Ala	Gly	Ala
	195					200						205			
Ile	Ala	Gln	Ser	Ser	Ile	Tyr	Pro	Met	Glu	Val	Leu	Lys	Thr	Arg	Met
	210					215					220				
Ala	Leu	Arg	Lys	Thr	Gly	Gln	Tyr	Ser	Gly	Met	Leu	Asp	Cys	Ala	Arg
225				230						235				240	
Arg	Ile	Leu	Ala	Arg	Glu	Gly	Val	Ala	Ala	Phe	Tyr	Lys	Gly	Tyr	Val

245 250 255
 Pro Asn Met Leu Gly Ile Ile Pro Tyr Ala Gly Ile Asp Leu Ala Val
 260 265 270
 Tyr Glu Thr Leu Lys Asn Ala Trp Leu Gln His Tyr Ala Val Asn Ser
 275 280 285
 Ala Asp Pro Gly Val Phe Val Leu Leu Ala Cys Gly Thr Met Ser Ser
 290 295 300
 Thr Cys Gly Gln Leu Ala Ser Tyr Pro Leu Ala Leu Val Arg Thr Arg
 305 310 315 320
 Met Gln Ala Gln Ala Ser Ile Glu Gly Ala Pro Glu Val Thr Met Ser
 325 330 335
 Ser Leu Phe Lys His Ile Leu Arg Thr Glu Gly Ala Phe Gly Leu Tyr
 340 345 350
 Arg Gly Leu Ala Pro Asn Phe Met Lys Val Ile Pro Ala Val Ser Ile
 355 360 365
 Ser Tyr Val Val Tyr Glu Asn Leu Lys Ile Thr Leu Gly Val Gln Ser
 370 375 380
 Arg
 385

<210> 4187

<211> 1087

<212> DNA

<213> Homo sapiens

<400> 4187

ntggccattg accgagcctg cccagaaagc gcttctctcc ttggtcaccc tcgagtccctg
 60
 gctgattcctt ttcctgacag ttccccttat gaggggtaca actatggctc ctttgagaat
 120
 gtttctggat ctaccgatgg tctggttgac agcgtggca ctggggacct ctcttaacgtt
 180
 taccagggcc gctcctttga acctgtaggt actcggcccc gagtggactc catgagctct
 240
 gtggaggagg atgactacga cacattgacc gacatcgatt ccgacaagaa tgtcattcgc
 300
 accaagcaat acctctatgt ggctgacctg gcacggaagg acaagcgtgt tctgcggaaa
 360
 aagtaccaga tctacttctg gaacattgcc accattgctg tcttctatgc ccttctctgtg
 420
 gtgcagctgg tgatcaccta cccagaggnn ggnggatgta cnaggggatc nagggacatc
 480
 tgctcntena acttctctctg cgcccaccca ctgggcaatc tcagcgcctt caacaacatc
 540
 ctacgcaacc tggggtacat cctgctgggg ctgcttttcc tgctcatcat cctgcaacgg
 600
 gagatcaacc acaaccgggc cctgctgcgc aatgacctct gtgccctgga atgtgggatc
 660
 cccaaacact ttgggctttt ctacgccatg ggcacagccc tgatgatgga ggggctgctc
 720
 agtgcttgct atcatgtgtg ccccaactat accaatttcc agtttggtga gtggggcgctc
 780
 cttcttttct ggctcaacct acagcaggga cctgcctgag tccttcacta tccccaagtc
 840

acccacaggg atcgctaaga caccctgta ggaaactcca aggcctggcgt gcctgggtgt
 900
 gcacacatcc tagcctatgg aacatgggca cctagatgct gcttcattca tctgtcaagc
 960
 tattcctatg taaaggcatg tgccgcagtg aagaaaacag tataattaag aaggggtccc
 1020
 tggccgggtg cagtggctca cgcctgtaat cccagcactt tgggaggcag aggcgggtgg
 1080
 atcatga
 1087

<210> 4188

<211> 272

<212> PRT

<213> Homo sapiens

<400> 4188

Xaa	Ala	Ile	Asp	Arg	Ala	Cys	Pro	Glu	Ser	Ala	Ser	Leu	Leu	Gly	His
1				5				10					15		
Pro	Arg	Val	Leu	Ala	Asp	Ser	Phe	Pro	Asp	Ser	Ser	Pro	Tyr	Glu	Gly
		20						25				30			
Tyr	Asn	Tyr	Gly	Ser	Phe	Glu	Asn	Val	Ser	Gly	Ser	Thr	Asp	Gly	Leu
	35						40				45				
Val	Asp	Ser	Ala	Gly	Thr	Gly	Asp	Leu	Ser	Tyr	Gly	Tyr	Gln	Gly	Arg
	50					55				60					
Ser	Phe	Glu	Pro	Val	Gly	Thr	Arg	Pro	Arg	Val	Asp	Ser	Met	Ser	Ser
65					70				75					80	
Val	Glu	Glu	Asp	Asp	Tyr	Asp	Thr	Leu	Thr	Asp	Ile	Asp	Ser	Asp	Lys
			85					90						95	
Asn	Val	Ile	Arg	Thr	Lys	Gln	Tyr	Leu	Tyr	Val	Ala	Asp	Leu	Ala	Arg
	100						105						110		
Lys	Asp	Lys	Arg	Val	Leu	Arg	Lys	Lys	Tyr	Gln	Ile	Tyr	Phe	Trp	Asn
	115						120					125			
Ile	Ala	Thr	Ile	Ala	Val	Phe	Tyr	Ala	Leu	Pro	Val	Val	Gln	Leu	Val
	130					135				140					
Ile	Thr	Tyr	Pro	Glu	Xaa	Gly	Gly	Cys	Thr	Arg	Gly	Ser	Arg	Asp	Ile
145					150				155					160	
Cys	Ser	Ser	Asn	Phe	Leu	Cys	Ala	His	Pro	Leu	Gly	Asn	Leu	Ser	Ala
			165						170					175	
Phe	Asn	Asn	Ile	Leu	Ser	Asn	Leu	Gly	Tyr	Ile	Leu	Leu	Gly	Leu	Leu
			180					185					190		
Phe	Leu	Leu	Ile	Ile	Leu	Gln	Arg	Glu	Ile	Asn	His	Asn	Arg	Ala	Leu
	195						200					205			
Leu	Arg	Asn	Asp	Leu	Cys	Ala	Leu	Glu	Cys	Gly	Ile	Pro	Lys	His	Phe
	210					215					220				
Gly	Leu	Phe	Tyr	Ala	Met	Gly	Thr	Ala	Leu	Met	Met	Glu	Gly	Leu	Leu
225					230				235					240	
Ser	Ala	Cys	Tyr	His	Val	Cys	Pro	Asn	Tyr	Thr	Asn	Phe	Gln	Phe	Gly
			245					250						255	
Glu	Trp	Gly	Val	Leu	Leu	Phe	Trp	Leu	Asn	Leu	Gln	Gln	Gly	Pro	Ala
			260					265					270		

<210> 4189

<211> 1570

<212> DNA

<213> Homo sapiens

<400> 4189

agatctattc gatcttttgc taatgatgat cgccatgtta tggtgaaaca ttcaacaatc
60
tatecatctc cggaggaact tgaagctgtt cagaatatgg tatctactgt tgaatgtgct
120
cttaaacatg tctcagattg gttggatgaa acaaataaag gcacaaaaac agaggggtgag
180
acagaagtga agaaagatga ggccggagaa aactattcca aggatcaagg tggcgggaca
240
ttgtgtggtg taatgaggat tggcctggtt gcaaaaggct tgctgattaa agatgatatg
300
gacttggagc tggttttaat gtgcaaagac aaaccacag agaccctgtt aaatacagtc
360
aaagataatc ttctattca gattcagaaa ctacagaag agaaatatca agtggaaaca
420
tgtgtaaatg aggcattctat tataattcgg aatacaaaag agcccacgct aactttgaag
480
gtgatactta cctcacctct aattagggac gaattggaga agaaggatgg agaaaatgtt
540
tcgatgaaag atcctccgga cttattggac aggcagaaat gcctgaacgc cttggcgtct
600
cttcgacatg ccaaattggtt tcaggcaagg gcaaattggat taaaatcatg tgtaattgtc
660
ctccgcatte tgctgatttt gtgcaacaga gtccccacat gggcaccatt gaaaggatgg
720
ccactagaac ttatatgtga aaagtctata ggtacttgta atagaccttt gggcgctggg
780
gaggccttga gacgagtaat ggagtgtttg gcatctggaa tactacttcc tgggggtcct
840
ggtcttcatg atccttgtga gcgagacca acagatgctc tgagctatat gaccatccag
900
caaaaagaag atattacca cagtgcacag catgcactca gactatcagc ctttggtcag
960
atttacaag tgctggagat ggacccccctt ccatctagta agccttttca gaagtattcc
1020
tggtcagtta ctgataaaga aggtgctggg tcttcagctc taaagaggcc atttgaagat
1080
ggattagggg atgataaaga cccaacaag aagatgaaac gaaacttaag gaaaattctg
1140
gatagtaaag caatagacct tatgaatgca ctaatgaggg taaatcagat caggcctggg
1200
cttcagtata agctcctatc tcagtctggc cccgttcag cccagtcctt cacaatgtct
1260
gtagatgtgg atggcacaac atatgaagcc tcaggaccat ccaagaaaac agcaaaactt
1320
cacgtagcgg tgaaggattt gcaggcaatg ggatatccaa caggctttga tgcagatatt
1380
gaatgtatga gttccgatga aaaaagaaga ggtctcaagt atgaactcat ctgagagact
1440
ggtggaagcc atgacaagcg ctttgtaatg gaggtagaag tagatggaca gaaattcaga
1500

ggcgcaggtc caaataagaa agtggcaaag gcgagtgcag ctttactcgc tnntggagaa
 1560
 actgttttct
 1570

<210> 4190

<211> 523

<212> PRT

<213> Homo sapiens

<400> 4190

Arg	Ser	Ile	Arg	Ser	Phe	Ala	Asn	Asp	Asp	Arg	His	Val	Met	Val	Lys
1				5					10				15		
His	Ser	Thr	Ile	Tyr	Pro	Ser	Pro	Glu	Glu	Leu	Glu	Ala	Val	Gln	Asn
			20					25					30		
Met	Val	Ser	Thr	Val	Glu	Cys	Ala	Leu	Lys	His	Val	Ser	Asp	Trp	Leu
		35					40					45			
Asp	Glu	Thr	Asn	Lys	Gly	Thr	Lys	Thr	Glu	Gly	Glu	Thr	Glu	Val	Lys
	50					55					60				
Lys	Asp	Glu	Ala	Gly	Glu	Asn	Tyr	Ser	Lys	Asp	Gln	Gly	Gly	Arg	Thr
65					70				75					80	
Leu	Cys	Gly	Val	Met	Arg	Ile	Gly	Leu	Val	Ala	Lys	Gly	Leu	Leu	Ile
				85					90				95		
Lys	Asp	Asp	Met	Asp	Leu	Glu	Leu	Val	Leu	Met	Cys	Lys	Asp	Lys	Pro
			100					105					110		
Thr	Glu	Thr	Leu	Leu	Asn	Thr	Val	Lys	Asp	Asn	Leu	Pro	Ile	Gln	Ile
			115				120						125		
Gln	Lys	Leu	Thr	Glu	Glu	Lys	Tyr	Gln	Val	Glu	Gln	Cys	Val	Asn	Glu
						135					140				
Ala	Ser	Ile	Ile	Ile	Arg	Asn	Thr	Lys	Glu	Pro	Thr	Leu	Thr	Leu	Lys
145					150				155					160	
Val	Ile	Leu	Thr	Ser	Pro	Leu	Ile	Arg	Asp	Glu	Leu	Glu	Lys	Lys	Asp
				165					170					175	
Gly	Glu	Asn	Val	Ser	Met	Lys	Asp	Pro	Pro	Asp	Leu	Leu	Asp	Arg	Gln
			180					185					190		
Lys	Cys	Leu	Asn	Ala	Leu	Ala	Ser	Leu	Arg	His	Ala	Lys	Trp	Phe	Gln
			195				200					205			
Ala	Arg	Ala	Asn	Gly	Leu	Lys	Ser	Cys	Val	Ile	Val	Leu	Arg	Ile	Leu
			210				215					220			
Arg	Asp	Leu	Cys	Asn	Arg	Val	Pro	Thr	Trp	Ala	Pro	Leu	Lys	Gly	Trp
225					230				235					240	
Pro	Leu	Glu	Leu	Ile	Cys	Glu	Lys	Ser	Ile	Gly	Thr	Cys	Asn	Arg	Pro
				245					250					255	
Leu	Gly	Ala	Gly	Glu	Ala	Leu	Arg	Arg	Val	Met	Glu	Cys	Leu	Ala	Ser
			260					265					270		
Gly	Ile	Leu	Leu	Pro	Gly	Gly	Pro	Gly	Leu	His	Asp	Pro	Cys	Glu	Arg
			275				280						285		
Asp	Pro	Thr	Asp	Ala	Leu	Ser	Tyr	Met	Thr	Ile	Gln	Gln	Lys	Glu	Asp
			290				295					300			
Ile	Thr	His	Ser	Ala	Gln	His	Ala	Leu	Arg	Leu	Ser	Ala	Phe	Gly	Gln
305					310				315					320	
Ile	Tyr	Lys	Val	Leu	Glu	Met	Asp	Pro	Leu	Pro	Ser	Ser	Lys	Pro	Phe
				325					330					335	
Gln	Lys	Tyr	Ser	Trp	Ser	Val	Thr	Asp	Lys	Glu	Gly	Ala	Gly	Ser	Ser

```

          340          345          350
Ala Leu Lys Arg Pro Phe Glu Asp Gly Leu Gly Asp Asp Lys Asp Pro
          355          360          365
Asn Lys Lys Met Lys Arg Asn Leu Arg Lys Ile Leu Asp Ser Lys Ala
          370          375          380
Ile Asp Leu Met Asn Ala Leu Met Arg Leu Asn Gln Ile Arg Pro Gly
385          390          395          400
Leu Gln Tyr Lys Leu Leu Ser Gln Ser Gly Pro Val His Ala Pro Val
          405          410          415
Phe Thr Met Ser Val Asp Val Asp Gly Thr Thr Tyr Glu Ala Ser Gly
          420          425          430
Pro Ser Lys Lys Thr Ala Lys Leu His Val Ala Val Lys Val Leu Gln
          435          440          445
Ala Met Gly Tyr Pro Thr Gly Phe Asp Ala Asp Ile Glu Cys Met Ser
          450          455          460
Ser Asp Glu Lys Arg Arg Gly Leu Lys Tyr Glu Leu Ile Ser Glu Thr
465          470          475          480
Gly Gly Ser His Asp Lys Arg Phe Val Met Glu Val Glu Val Asp Gly
          485          490          495
Gln Lys Phe Arg Gly Ala Gly Pro Asn Lys Lys Val Ala Lys Ala Ser
          500          505          510
Ala Ala Leu Leu Ala Xaa Gly Glu Thr Val Phe
          515          520

```

<210> 4191

<211> 1661

<212> DNA

<213> Homo sapiens

<400> 4191

```

nngccggcga cagtcgggggt tgcgagcggc ccggggccgg ggcggccagg gccgctgcag
60
gacgagaccc tgggtgtggc gtccgtgcc tcgcagtggg gggccgtcca gggcatccgc
120
ggggagacga aaagttgcc gacggccagc attgccactg ccagtgcac cgccaggcc
180
aggaatcatg tggacgcca ggtgcagacg gagggcccg tgctgtcag cgtgcagccc
240
ccgtcccagt acgacatacc caggctcgca gcctttcttc ggagagtggg ggccatggtc
300
atccgagagc tgaacaagaa ttggcagagc cacgcgtttg atggcttcga ggtgaactgg
360
accgagcagc agcagatggg gtcttgtctg tataccctgg gctaccgcc agcccaagcg
420
cagggtctgc atgtgaccag catctcctgg aactccactg gctctgtggg ggctgtgcc
480
tacggccggc tggaccatgg ggactggagc acgcttaagt ccttcgtgtg tgcttgaac
540
ctgaccggc gagacctgcg tccccagcaa ccgtcggccg tgggtggagg cccagcgct
600
gtcctgtgtc tggccttcca cccacgcag cctcccacg tcgcaggagg gctgtacagt
660
ggtaggtgt tgggtgtggg cctgagccgt cttgaggacc cgctgctgtg gcgcacaggc
720

```

ctgacggatg acacccacac agaccctgtg tcccaggtgg tgtggctgcc cgagcctggg
 780
 cacagccacc gcttccaggt gctgagtgtg gccactgacg ggaaggtgct actctggcag
 840
 ggcatcgggg taggccagct gcagctcaca gagggttcg ccctggtcac gcagcagctg
 900
 ccacggagca ccaagctcaa gaagcatccc cgcggggaga ccgaggtggg cgccacggca
 960
 gtggccttct ccagctttga ccctaggctg ttcattctgg gcacggaagg cggcttcccc
 1020
 ctcaagtgtt ccctggcagc tggagaggca gccctcacgc ggatgcccag ctccgtgcc
 1080
 ctgcgggccc cagcacagtt taccttctcc cccacggcg gtcccatcta ctctgtgagc
 1140
 tgttccccct tccacaggaa tctcttcctg agcgctggga ctgacgggca tgtccacctg
 1200
 tactccatgc tgcaggcccc tcccttgact tcgctgcagc tctccctcaa gtatctgttt
 1260
 gctgtgcgct ggtccccagt gcggcccttg gtttttgag ctgcctctgg gaaaggtgac
 1320
 gtgagctgt ttgatctcca gaaaagctcc cagaaacca cagttttgat caagcaaacc
 1380
 caggatgaaa gccctgtcta ctgtctggag ttcaacagcc agcagactca gctcttggt
 1440
 gcgggcatg cccagggcac agtgaagggtg tggcagctga gcacagagtt cacggaacaa
 1500
 gggccccggg aagctgagga cctggactgc ctggcagcag aggtggcggc ctgaggggtc
 1560
 ccgggaggcg ggtgcaagcc ttcgctgtgc cgagccttgt gtttctgacg caagccaaat
 1620
 gaagaaaagc aaagctttaa aaaaaaaaaa aaaaaaaaaa a
 1661

<210> 4192

<211> 517

<212> PRT

<213> Homo sapiens

<400> 4192

Xaa	Pro	Ala	Thr	Val	Gly	Val	Ala	Ser	Gly	Pro	Gly	Pro	Gly	Arg	Pro
1				5					10					15	
Gly	Pro	Leu	Gln	Asp	Glu	Thr	Leu	Gly	Val	Ala	Ser	Val	Pro	Ser	Gln
		20						25					30		
Trp	Arg	Ala	Val	Gln	Gly	Ile	Arg	Gly	Glu	Thr	Lys	Ser	Cys	Gln	Thr
		35					40					45			
Ala	Ser	Ile	Ala	Thr	Ala	Ser	Ala	Ser	Ala	Gln	Ala	Arg	Asn	His	Val
	50					55				60					
Asp	Ala	Gln	Val	Gln	Thr	Glu	Ala	Pro	Val	Pro	Val	Ser	Val	Gln	Pro
65					70					75				80	
Pro	Ser	Gln	Tyr	Asp	Ile	Pro	Arg	Leu	Ala	Ala	Phe	Leu	Arg	Arg	Val
			85					90					95		
Glu	Ala	Met	Val	Ile	Arg	Glu	Leu	Asn	Lys	Asn	Trp	Gln	Ser	His	Ala
		100					105					110			
Phe	Asp	Gly	Phe	Glu	Val	Asn	Trp	Thr	Glu	Gln	Gln	Gln	Met	Val	Ser


```

      115              120              125
Cys Leu Tyr Thr Leu Gly Tyr Pro Pro Ala Gln Ala Gln Gly Leu His
      130              135              140
Val Thr Ser Ile Ser Trp Asn Ser Thr Gly Ser Val Val Ala Cys Ala
145              150              155              160
Tyr Gly Arg Leu Asp His Gly Asp Trp Ser Thr Leu Lys Ser Phe Val
      165              170              175
Cys Ala Trp Asn Leu Asp Arg Arg Asp Leu Arg Pro Gln Gln Pro Ser
      180              185              190
Ala Val Val Glu Val Pro Ser Ala Val Leu Cys Leu Ala Phe His Pro
      195              200              205
Thr Gln Pro Ser His Val Ala Gly Gly Leu Tyr Ser Gly Glu Val Leu
210              215              220
Val Trp Asp Leu Ser Arg Leu Glu Asp Pro Leu Leu Trp Arg Thr Gly
225              230              235              240
Leu Thr Asp Asp Thr His Thr Asp Pro Val Ser Gln Val Val Trp Leu
      245              250              255
Pro Glu Pro Gly His Ser His Arg Phe Gln Val Leu Ser Val Ala Thr
      260              265              270
Asp Gly Lys Val Leu Leu Trp Gln Gly Ile Gly Val Gly Gln Leu Gln
275              280              285
Leu Thr Glu Gly Phe Ala Leu Val Met Gln Gln Leu Pro Arg Ser Thr
290              295              300
Lys Leu Lys Lys His Pro Arg Gly Glu Thr Glu Val Gly Ala Thr Ala
305              310              315              320
Val Ala Phe Ser Ser Phe Asp Pro Arg Leu Phe Ile Leu Gly Thr Glu
      325              330              335
Gly Gly Phe Pro Leu Lys Cys Ser Leu Ala Ala Gly Glu Ala Ala Leu
      340              345              350
Thr Arg Met Pro Ser Ser Val Pro Leu Arg Ala Pro Ala Gln Phe Thr
      355              360              365
Phe Ser Pro His Gly Gly Pro Ile Tyr Ser Val Ser Cys Ser Pro Phe
      370              375              380
His Arg Asn Leu Phe Leu Ser Ala Gly Thr Asp Gly His Val His Leu
385              390              395              400
Tyr Ser Met Leu Gln Ala Pro Pro Leu Thr Ser Leu Gln Leu Ser Leu
      405              410              415
Lys Tyr Leu Phe Ala Val Arg Trp Ser Pro Val Arg Pro Leu Val Phe
      420              425              430
Ala Ala Ala Ser Gly Lys Gly Asp Val Gln Leu Phe Asp Leu Gln Lys
      435              440              445
Ser Ser Gln Lys Pro Thr Val Leu Ile Lys Gln Thr Gln Asp Glu Ser
      450              455              460
Pro Val Tyr Cys Leu Glu Phe Asn Ser Gln Gln Thr Gln Leu Leu Ala
465              470              475              480
Ala Gly Asp Ala Gln Gly Thr Val Lys Val Trp Gln Leu Ser Thr Glu
      485              490              495
Phe Thr Glu Gln Gly Pro Arg Glu Ala Glu Asp Leu Asp Cys Leu Ala
      500              505              510
Ala Glu Val Ala Ala
      515

```

<210> 4193

<211> 6439

<212> DNA

<213> Homo sapiens

<400> 4193

gaattccggc gtcgcgacg catcccagtc tgggcgggac gtcgggccgc ggcgaggcgg
60
gcaagcctgg cagggcagag ggagccccgg ctccgagggt gctcttcgcc cccgaggatc
120
agtcttggcc ccaaagcgcg acgcacaaat ccacataacc tgaggaccat ggatgctgat
180
gaggggtcaag acatgtccca agtttcaggg aaggaaagcc cccctgtaag cgatactcca
240
gatgagggcg atgagcccat gccgatcccc gaggacctct ccaccacctc gggaggacag
300
caaagctcca agagtgcag agtcgtggcc agtaatgtta aagtagagac tcagagtgat
360
gaagagaatg ggcgtgcctg tgaatgaat ggggaagaat gtgcggagga ttacgaatg
420
cttgatgcct cgggagagaa aatgaatggc tcccacaggg accaaggcag ctcggtttg
480
tcgggagttg gaggcattcg acttccctaac ggaaaactaa agtgtgatat ctgtgggatc
540
atttgcacg ggcccaatgt gtcctgggtt caaaaagaa gccacactgg agaacggccc
600
ttccagtga atcagtgcgg ggcctcattc acccagaagg gcaacctgct ccggcacatc
660
aagctgcatt cgggggagaa gcccttcaaa tgccacctct gcaactacgc ctgcccggcg
720
agggacgccc tccctggcca cctgaggacg cactccgttg gtaaacctca caaatgtgga
780
tattgtggcc gaagctataa acagcgaagc tctttagagg aacataaaga gcgctgccac
840
aactacttgg aaagcatggg ccttcggggc aactgtacc cagtcattaa agaagaaact
900
aatcacagt aaatggcaga agacctgtgc aagataggat cagagagatc tctcgtgctg
960
gacagactag caagtaacgt cgccaaacgt aagagctcta tgcctcagaa atttcttggg
1020
gacaagggcc tgtccgacac gccctacgac agcagcgcca gctacgagaa ggagaacgaa
1080
atgatgaagt cccacgtgat ggaccaagcc atcaacaacg ccatcaacta cctggggggc
1140
gagtccttgc gcccgctggt gcagacgccc ccgggcggtt ccgaggtggt cccgggtcatc
1200
agccccgatgt accagctgca caagccgctc gcggagggga ccccgcgctc caaccactcg
1260
gcccaggaca gcgccgtgga gaacctgctg ctgctctcca aggccaagtt ggtgccctcg
1320
gagcgcgagg cgtccccgag caacagctgt caagactcca cggacaccga gagcaacaac
1380
gaggagcagc gcagcggctc catctacctg accaaccaca tcgccccgca cgcgcgcaac
1440
ggcttgtcgc tcaaggagga gcaccgcgcc tacgacctgc tgcgcgccgc ctccgagaac
1500

tcgcaggacg cgctccgcgt ggtcagcacc agcggggagc agatgaaggt gtacaagtgc
1560
gaacactgcc ggggtgctctt cctggatcac gtcatgtaca ccatccacat gggctgccac
1620
ggcttccgtg atccttttga gtgcaacatg tgcggctacc acagccagga ccggtacgag
1680
ttctcgtcgc acataacgcg aggggagcac cgcttcaca tgagctaaag ccctccgcg
1740
ccccacccc agaccccgag ccacccagc aaaagcaca ggactgccgc cttctcgtc
1800
ccgccagcag catagactgg actggaccag acaatgttgt gtttgattt gtaactgtt
1860
tttggttttt gtttgagtgt gttgattggg gtttgatttg cttttgaaa gatttttatt
1920
tttagaggca gggctgcatt gggagcatcc agaactgcta ctttcctaga tgtttcccca
1980
gaccgctggc tgagattccc tcacctgtcg cttcctagaa tccccttctc caaacgatta
2040
gtctaaattt tcagagagaa atagataaaa cagccacag cctgggaagg agcgtgctct
2100
accctgtgct aagcacgggg ttcgcgcacc aggtgtcttt ttccagtccc cagaagcaga
2160
gagcacagcc cctgctgtgt gggctctgcag gtgagcagac aggacagggtg tgccgccacc
2220
caagtgccaa gacacagcag ggccaacaac ctgtgccag gccagcttcg agctacatgc
2280
atctagggcg gagaggctgc acttgtgaga gaaaatactt atttcaagtc atattctgcg
2340
gtaggaaaat gattggggtg gggaaagtcg gtgtctgtca gactgccctg ggtggaggga
2400
gacgccgggt tagagccttt gggatcgccc tggattcact ggcttggggg aggctgttca
2460
gatggcctga gcctcccag gcttgctgcc ccgtaggagg agactgtctt ccggtgggca
2520
tatctgggga gccctgttcc ccgctttttc actcccatc ctttaatggc ccccaaaatc
2580
tgtcactaca atttaaacac cagtcccga atttggatct tctttctttt tgaatctctc
2640
aaacggcaac attcctcaga aaccaaagct ttatttcaaa tctcttcctt ccctggctgg
2700
ttccatctag taccagaggc ctcttttcct gaagaaatcc aatcctagcc ctcattttta
2760
ttatgtacat ctgctttag ccacaagcct gaatttctca gtgttggtta gtttctttac
2820
ctaccctcac tatatattat tctcgtttta aaaccataa aggagtgtt tagaacagtc
2880
attaattttc caactcaatg aaaatatgtg aagcccagca tctctgttgc taacacacag
2940
agctcacctg ttgaaacca agctttcaaa catgttgaag ctctttactg taaaggcaag
3000
ccagcatgtg tgccacaca tacataggat ggctggctct gcacctgtag gatattggaa
3060
tgcacagggc aattgagggg ctgagccaga ccttcggaga gtaatgccac cagatccct
3120

aggaaagagg aggcaaatgg cactgcaggt gagaaccccg cccatccgtg ctatgacatg
3180
gaggcactga agcccgagga aggtgtgtgg agattctaata cccaacaagc aaggggtctcc
3240
ttcaagatta atgctatcaa tcattaaggt cattactctc aaccacctag gcaatgaaga
3300
atataccatt tcaaataattt acagtacttg tcttcaccaa cactgtccca aggtgaaatg
3360
aagcaacaga gaggaaattg tacataagta cctcagcatt taatccaaac aggggttctt
3420
agtctcagca ctatgacatt ttgggtgac tacttatttg ttaggcggga gctctcctgt
3480
gcattgtagg ataattagca gtatccctgg tggctacca atagacgcca gtagcacccc
3540
gaattgacaa cccaaactct ccagacatca ccaactgtcc cctgcgagga gaaatcactc
3600
ctgggggaga accactgacc caaatgaatt ctaaaccaat caaatgtctg ggaagccctc
3660
caagaaaaaa aatagaaaag cacttgaaga atattcccaa tattcccggt cagcagtatc
3720
aaggctgact tgtgttcatg tggagtcatt ataaattcta taaatcaatt attccccctc
3780
ggtcttcaaa aatatatttc ctcataaaca tttgagtttt gttgaaaaga tggagtttac
3840
aaagatacca ttcttgagtc atggatttct ctgtcacag aaggggtgtg catttgga
3900
cggaataaaa caaaattgct gcaccaatgc actgagtgaa ggaagagaga cagaggatca
3960
agggctttag acagcactcc ttcaatatgc aatcacagag aaagatgcgc cttatccaag
4020
ttaatatctc taagggtgaga gccttcttag agtcagtttg ttgcaaattt cacctactct
4080
gttcttttcc atccatcccc ctgagtcagt tgggtgaagg gagttatttt ttcaagtga
4140
attcaaaca agctcaaacc agaactgtaa atagtgattg caggaattct tttctaaact
4200
gctttgcctt ttctctcac tgctttttat agccaatata aatgtctctt tgcaacactt
4260
ttgttggtgt tttatattgt aacaccattt ttctttgaaa ctattgtatt taaagtaagg
4320
tttcatatta tgtcagcaag taattaactt atgtttaaaa ggtggccata tcatgtacca
4380
aaagttgctg aagtttctct tctagctggt aaagtaggag tttgcatgac ttcacacttt
4440
ttttgcgtag tttcttctgt tgtatgatgg cgtgagtggt tgtcttgggt accgctgtgt
4500
actactgtgt gcctagattc catgcactct cgttgtgttt gaagtaaata ttggagaccg
4560
gagggtaaca ggttgccctg ttgattacag ctagtaatcg ctgtgtcttg ttccgcccc
4620
tccctgacac cccagcttcc caggatgtgg aaagcctgga tctcagctcc ttgccccata
4680
tcccttctgt aatttgtacc taaagagtgt gattatccta attcaagagt cactaaaact
4740

catcacatta tcattgcata tcagcaaagg gtaaagtcct agcaccaatt gcttcacata
4800
ccagcatgtt ccatttccaa tttagaatta gccacataat aaaatcttag aatcttcctt
4860
gagaaagagc tgcctgagat gtagttttgt tatatgggtc cccaccgacc atttttgtgc
4920
ttttttcttg ttttgttttg ttttgactgc actgtgagtt ttgtagtgtc ctcttcttgc
4980
caaaacaaac gcgagatgaa ctggacttat gtagacaaat cgtgatgcca gtgtatcctt
5040
cctttcttca gttccagcaa taatgaatgg tcaacttttt taaaatctag atcattggag
5100
accggagggt aacaggttgg cctgttgatt acagctagta atcgtgtgtt ctgttccgc
5160
ccctccctg acacccagc tcccaggat gtggaaagcc tggatctcag ctcttgccc
5220
catatccctt ctgtaatttg tacctaaaga gtgtgattat cctaattgat ctctctcatt
5280
catttcaatg tatttttact ttaagatgaa ccaaattat tagacttatt taagatgtac
5340
aggcatcaga aaaaagaagc acataatgct tttggtgcga tggcactcac tgtgaacatg
5400
tgtaaccaca tattaatatg caatattgtt tccaatactt tctaatacag tttttataa
5460
tgttgttgtt ggtgattgtt caggtcgaat ctgttgtatc cagtacagct ttaggtcttc
5520
agctgccctt ctggcgagta catgcacagg attgtaaatg agaaatgcag tcatatttcc
5580
agtctgctc tatgatgatg ttaaattatt gctgtttagc tgtgaacaag ggatgtacca
5640
ctggaggaat agagtatcct tttgtacaca ttttgaaatg cttcttctgt agtगतगगग
5700
caaataaatg caacgaatac tctgtctgcc ctatcccgtg aagtccacac tggcgtaaga
5760
gaaggccccag cagagcagga atctgcctag actttctccc aatgagatcc caatatgaga
5820
gggagaagag atgggcctca ggacagctgc aataccactt gggaacacat gtggtgtctt
5880
gatgtggcca gcgcacgagt tcagcacaac gtacctcca tctacaacag tgctggacgt
5940
gggaattcta agtcccagtc ttgagggagg gtggagatgg agggcaacaa gagatacatt
6000
tccagtctc cactgcagca tgcttcagtc attctgtgag tggccgggccc cagggccctc
6060
acaatttcac taccttgtct ttacatagt cataagaatt atcctcaaca tagccttttg
6120
acgtgtgaaa tcttgagtat tcatttacct tttctgac tctggaaac agctgcctgc
6180
ctgcattgca cttctcttcc cgaggagtgg ggtaaattta aaagtcaagt tatagtttgg
6240
atgttagtat agaattttga aattgggaat taaaaatcag gactggggac tgggagacca
6300
aaaatttctg atcccatttc tgatggatgt gtcacacctt ttctgtcaaa ataaaatgtc
6360

ttggagggtta tgactccttg gtgaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa
 6420
 aaaaaaaaaa aaaaaaaaaa
 6439

<210> 4194
 <211> 519
 <212> PRT
 <213> Homo sapiens

<400> 4194
 Met Asp Ala Asp Gly Gln Asp Met Ser Gln Val Ser Gly Lys Glu
 1 5 10 15
 Ser Pro Pro Val Ser Asp Thr Pro Asp Glu Gly Asp Glu Pro Met Pro
 20 25 30
 Ile Pro Glu Asp Leu Ser Thr Thr Ser Gly Gly Gln Gln Ser Ser Lys
 35 40 45
 Ser Asp Arg Val Val Ala Ser Asn Val Lys Val Glu Thr Gln Ser Asp
 50 55 60
 Glu Glu Asn Gly Arg Ala Cys Glu Met Asn Gly Glu Glu Cys Ala Glu
 65 70 75 80
 Asp Leu Arg Met Leu Asp Ala Ser Gly Glu Lys Met Asn Gly Ser His
 85 90 95
 Arg Asp Gln Gly Ser Ser Ala Leu Ser Gly Val Gly Gly Ile Arg Leu
 100 105 110
 Pro Asn Gly Lys Leu Lys Cys Asp Ile Cys Gly Ile Ile Cys Ile Gly
 115 120 125
 Pro Asn Val Leu Met Val His Lys Arg Ser His Thr Gly Glu Arg Pro
 130 135 140
 Phe Gln Cys Asn Gln Cys Gly Ala Ser Phe Thr Gln Lys Gly Asn Leu
 145 150 155 160
 Leu Arg His Ile Lys Leu His Ser Gly Glu Lys Pro Phe Lys Cys His
 165 170 175
 Leu Cys Asn Tyr Ala Cys Arg Arg Arg Asp Ala Leu Thr Gly His Leu
 180 185 190
 Arg Thr His Ser Val Gly Lys Pro His Lys Cys Gly Tyr Cys Gly Arg
 195 200 205
 Ser Tyr Lys Gln Arg Ser Ser Leu Glu Glu His Lys Glu Arg Cys His
 210 215 220
 Asn Tyr Leu Glu Ser Met Gly Leu Pro Gly Thr Leu Tyr Pro Val Ile
 225 230 235 240
 Lys Glu Glu Thr Asn His Ser Glu Met Ala Glu Asp Leu Cys Lys Ile
 245 250 255
 Gly Ser Glu Arg Ser Leu Val Leu Asp Arg Leu Ala Ser Asn Val Ala
 260 265 270
 Lys Arg Lys Ser Ser Met Pro Gln Lys Phe Leu Gly Asp Lys Gly Leu
 275 280 285
 Ser Asp Thr Pro Tyr Asp Ser Ser Ala Ser Tyr Glu Lys Glu Asn Glu
 290 295 300
 Met Met Lys Ser His Val Met Asp Gln Ala Ile Asn Asn Ala Ile Asn
 305 310 315 320
 Tyr Leu Gly Ala Glu Ser Leu Arg Pro Leu Val Gln Thr Pro Pro Gly
 325 330 335
 Gly Ser Glu Val Val Pro Val Ile Ser Pro Met Tyr Gln Leu His Lys

```

          340          345          350
Pro Leu Ala Glu Gly Thr Pro Arg Ser Asn His Ser Ala Gln Asp Ser
          355          360          365
Ala Val Glu Asn Leu Leu Leu Ser Lys Ala Lys Leu Val Pro Ser
          370          375          380
Glu Arg Glu Ala Ser Pro Ser Asn Ser Cys Gln Asp Ser Thr Asp Thr
385          390          395          400
Glu Ser Asn Asn Glu Glu Gln Arg Ser Gly Leu Ile Tyr Leu Thr Asn
          405          410          415
His Ile Ala Pro His Ala Arg Asn Gly Leu Ser Leu Lys Glu Glu His
          420          425          430
Arg Ala Tyr Asp Leu Leu Arg Ala Ala Ser Glu Asn Ser Gln Asp Ala
          435          440          445
Leu Arg Val Val Ser Thr Ser Gly Glu Gln Met Lys Val Tyr Lys Cys
          450          455          460
Glu His Cys Arg Val Leu Phe Leu Asp His Val Met Tyr Thr Ile His
465          470          475          480
Met Gly Cys His Gly Phe Arg Asp Pro Phe Glu Cys Asn Met Cys Gly
          485          490          495
Tyr His Ser Gln Asp Arg Tyr Glu Phe Ser Ser His Ile Thr Arg Gly
          500          505          510
Glu His Arg Phe His Met Ser
          515

```

<210> 4195
 <211> 1200
 <212> DNA
 <213> Homo sapiens

```

<400> 4195
nngggaagtc ttcttgacgc cgtgtggacg aatttggccc aaccttttca taggagatgc
60
agctggtcct tactccctgc catggggctc tgcacgtttg ccaccctggc actgatcctg
120
ctggtgctgc tggaggetct gggccaggcg gacacacaga agatggtgga agcccagcgt
180
ggggtcggcc ctagagcctg ctactccatc tggctcctcc tggcgcctac acccctctc
240
agccactgtc ttcagtctcc acagaaacag catcaagtgt gcggagacag gcggctgaaa
300
gccagcagca cgaactgccc gtcagagaag tgcacagcct gggccagata ctcccacagg
360
atggactcac tgcagaagca ggacctccgg aggcccaaga tccatggggc agtccaggca
420
tctccctacc agccgcccac attggcttcg ctgcagcgct tgctgtgggt ccgtcaggct
480
gccacactga accatatcga tgaggctcgg cccagcctct tcctgggaga tgcgtacgca
540
gcccgggaca agagcaagct gatccagctg ggaatcacc acgttgtgaa tgccgctgca
600
ggcaagttcc aggtggacac aggtgccaaa ttctaccgtg gaatgtccct ggagtactat
660
ggcatcgagg cggacgacaa ccccttcttc gacctcagtg tctactttct gcctgttgct
720

```

cgatacatcc gagctgccct cagtgttccc caaggccgcg tgctggtaca ctgtgccatg
 780
 ggggtaagcc gctctgccac acttgctctg gccttccctca tgatctatga gaacatgacg
 840
 ctggttagagg ccatccagac ggtgcaggcc caccgcaata tctgccctaa ctcaggcttc
 900
 ctccggcagc tccaggttct ggacaaccga ctggggcggg agacggggcg gttctgatct
 960
 ggcaggcagc caggatccct gacccttggc ccaacccac cagcctggcc ctgggaacag
 1020
 caggctctgc tgtttctagt gaccctgaga tgtaaacagc aagtgggggc tgaggcagag
 1080
 gcagggatag ctgggtggtg acctcttagc ggggtggattt ccctgaccca attcagagat
 1140
 tctttatgca aaagtgagtt cagtccatct ctataataaa atattcatcg tcataaaaaa
 1200

<210> 4196

<211> 318

<212> PRT

<213> Homo sapiens

<400> 4196

Xaa	Gly	Ser	Leu	Leu	Ala	Ala	Val	Trp	Thr	Asn	Leu	Ala	Gln	Pro	Phe
1				5					10					15	
His	Arg	Arg	Cys	Ser	Trp	Ser	Leu	Leu	Pro	Ala	Met	Gly	Leu	Cys	Thr
			20					25					30		
Phe	Ala	Thr	Leu	Ala	Leu	Ile	Leu	Val	Leu	Leu	Glu	Ala	Leu	Ala	
		35				40					45				
Gln	Ala	Asp	Thr	Gln	Lys	Met	Val	Glu	Ala	Gln	Arg	Gly	Val	Gly	Pro
	50				55					60					
Arg	Ala	Cys	Tyr	Ser	Ile	Trp	Leu	Leu	Leu	Ala	Pro	Thr	Pro	Pro	Leu
65					70					75					80
Ser	His	Cys	Leu	Gln	Ser	Pro	Gln	Lys	Gln	His	Gln	Val	Cys	Gly	Asp
			85					90					95		
Arg	Arg	Leu	Lys	Ala	Ser	Ser	Thr	Asn	Cys	Pro	Ser	Glu	Lys	Cys	Thr
		100						105					110		
Ala	Trp	Ala	Arg	Tyr	Ser	His	Arg	Met	Asp	Ser	Leu	Gln	Lys	Gln	Asp
		115				120						125			
Leu	Arg	Arg	Pro	Lys	Ile	His	Gly	Ala	Val	Gln	Ala	Ser	Pro	Tyr	Gln
	130					135				140					
Pro	Pro	Thr	Leu	Ala	Ser	Leu	Gln	Arg	Leu	Leu	Trp	Val	Arg	Gln	Ala
145				150					155					160	
Ala	Thr	Leu	Asn	His	Ile	Asp	Glu	Val	Trp	Pro	Ser	Leu	Phe	Leu	Gly
		165						170					175		
Asp	Ala	Tyr	Ala	Ala	Arg	Asp	Lys	Ser	Lys	Leu	Ile	Gln	Leu	Gly	Ile
		180				185						190			
Thr	His	Val	Val	Asn	Ala	Ala	Ala	Gly	Lys	Phe	Gln	Val	Asp	Thr	Gly
		195				200					205				
Ala	Lys	Phe	Tyr	Arg	Gly	Met	Ser	Leu	Glu	Tyr	Tyr	Gly	Ile	Glu	Ala
	210				215					220					
Asp	Asp	Asn	Pro	Phe	Phe	Asp	Leu	Ser	Val	Tyr	Phe	Leu	Pro	Val	Ala
225				230						235				240	
Arg	Tyr	Ile	Arg	Ala	Ala	Leu	Ser	Val	Pro	Gln	Gly	Arg	Val	Leu	Val


```

                245                250                255
His Cys Ala Met Gly Val Ser Arg Ser Ala Thr Leu Val Leu Ala Phe
                260                265                270
Leu Met Ile Tyr Glu Asn Met Thr Leu Val Glu Ala Ile Gln Thr Val
                275                280                285
Gln Ala His Arg Asn Ile Cys Pro Asn Ser Gly Phe Leu Arg Gln Leu
                290                295                300
Gln Val Leu Asp Asn Arg Leu Gly Arg Glu Thr Gly Arg Phe
305                310                315

```

<210> 4197

<211> 597

<212> DNA

<213> Homo sapiens

<400> 4197

```

cggttgctgt cgattgttgg aagacaaaga gccagccag gatggcagaa ctggctctct
60
gcaagaaaca gcgcgtcagc tgccgaggcg cgttccatgg ccctgcccac ccaggcacag
120
gtggtcatct gtggaggtgg aatcacgggc acttctgtgg cccatcacca atccaaaatg
180
gggtggaagg atattgtcct tttggagcag ggcaggctgg ctgctggctc taccagggtc
240
tgtgctggca tcctgagcac tgccaggcac ttgaccattg agcagaagat ggcagactac
300
tcaaacaac tctactatca gttagagcaa gaaacaggga tccaaacagg ttacacaagg
360
acagggtcaa tctttctggc ccaaactcag gaccgactga tctccctgaa gcgcatcaac
420
gcagggtga agtacgtaag agtctagaag cgtgtcctga ctttaccaca ctggcctctg
480
ccaaagagcc tgtgaatgtc attgtccctt gtgttctgtg gcagtgttat aggtatccct
540
tctgagatca tctcccccaa gaaagtggcc gagcttcacc atctcctcaa cgtgcac
597

```

<210> 4198

<211> 148

<212> PRT

<213> Homo sapiens

<400> 4198

```

Arg Leu Leu Ser Ile Val Gly Arg Gln Arg Ala Ser Pro Gly Trp Gln
1                5                10                15
Asn Trp Ser Ser Ala Arg Asn Ser Ala Ser Ala Ala Glu Ala Arg Ser
20                25                30
Met Ala Leu Pro Thr Gln Ala Gln Val Val Ile Cys Gly Gly Gly Ile
35                40                45
Thr Gly Thr Ser Val Ala His His Gln Ser Lys Met Gly Trp Lys Asp
50                55                60
Ile Val Leu Leu Glu Gln Gly Arg Leu Ala Ala Gly Ser Thr Arg Phe
65                70                75                80
Cys Ala Gly Ile Leu Ser Thr Ala Arg His Leu Thr Ile Glu Gln Lys

```

```

<400> 4199
nnatccgctc ggcttctctgg gtctgggtgc tgccgcccgc cgggtgtccgc ccgtgtcgcg
60
ccggggcacc aaggagccgt tggaggggtcc gggcgagggc ccgctcgtgt ggaagtcgtc
120
gacgcgcgcg ctctgtccgtc ctcccgtccg ttctcgctcc cggccgccat catgctggcg
180
ctcatctccc gcctgctgga ctggttccgt tcgctcttct ggaaggaaga gatggagctg
240
acgctcgtgg ggctgcagta ctcgggcaag accaccttcg tcaatgtcat cgcgtcaggt
300
caattcagtg aagatatgat acccacagtg ggcttcaaca tgaggaaggt aactaaaggt
360
aacgtcacaa taaagatctg ggacatagga ggacaacccc gatttcgaag catgtgggag
420
cggtattgca gaggagtcaa tgctattggt tacatgatag atgctgcaga tcgtgaaaaa
480
atagaagctt cccgaaatga gctccacaac ctactggaca aaccacagtt acaaggaatt
540
ccagtgtctag tgcttggaag caagcgagac ctccgggag cattggatga gaaggagctg
600
attgagaaaa tgaatctgtc tgctattcag gatagagaaa ttgctgcta ttcaatttct
660
tgcaaagaaa aggataatat agatatcaca cttcagtggc ttattcagca ttcaaaatct
720
agaagaagct gaagcatctc ctgaagtctt ccagtccttc ttggctataa tcctagaatt
780
attgtccggt cctctgaagt aattcccaga atacggctct tcctaaaccc cagaaattgc
840
ctttttcaga gtttatttct catgtgcact gctgaagatg aatatcccta atccttcata
900
aagaatcagc tagagttgtc atgataaagt cagcacacac aaaaaggctt ctacacata
960
cctgtcttaa accatgtgta gagctttaa aacagaaaaa aaaccccata tacttatgac
1020
catcttaa at caagaaaatt gcatatttcc attctgggtc ttctgggcca gatttttata
1080
ttggttttca gtaa atgtct atctataata ttctattata gagtccagta gcttaatact
1140

```

gacactgact tgatacagca tgaagtttct agtgccacac acagtattta gaaaaccttt
 1200
 aggcgtgaat gactcatgtg ggatatatgt aaacataatg tttattttat ctcacaaatg
 1260
 catgtgaaat gtataattac atcttaggaa tccaaaatgg tctgcagaga gtgagcggag
 1320
 gcaccagatc aatgttggtt ctttgcactg gtgagattct gcttgatgaa tattaaagat
 1380
 atcctgcttt ctgagaactc tatcaccaga tggcagttgg gatatgggag gaactaaagc
 1440
 atcctgtttt gtatctgtcc agatcattat ttctgtctct tgttttttct tcctgggtca
 1500
 ggatactttt ttaaggggtt gagaattgaa gattttccaa aagcgttcat gaatttagag
 1560
 cattccaccc aatataataa aacctgttaa gaatgtcagt ctttgttcaa acatctgttt
 1620
 gttctatctc cagtcattaa atcagtgtg ctgcatgaca ctcttaactc ctgacttttt
 1680
 atatccagtc ataaagttga ctttcagcac aaaagatact tataaacaaa taaaaaattt
 1740
 ttatttttct ctcttactga tgtaagctt
 1769

<210> 4200

<211> 186

<212> PRT

<213> Homo sapiens

<400> 4200

Met	Leu	Ala	Leu	Ile	Ser	Arg	Leu	Leu	Asp	Trp	Phe	Arg	Ser	Leu	Phe
1			5						10					15	
Trp	Lys	Glu	Glu	Met	Glu	Leu	Thr	Leu	Val	Gly	Leu	Gln	Tyr	Ser	Gly
		20						25					30		
Lys	Thr	Thr	Phe	Val	Asn	Val	Ile	Ala	Ser	Gly	Gln	Phe	Ser	Glu	Asp
		35				40						45			
Met	Ile	Pro	Thr	Val	Gly	Phe	Asn	Met	Arg	Lys	Val	Thr	Lys	Gly	Asn
	50					55					60				
Val	Thr	Ile	Lys	Ile	Trp	Asp	Ile	Gly	Gly	Gln	Pro	Arg	Phe	Arg	Ser
65					70					75				80	
Met	Trp	Glu	Arg	Tyr	Cys	Arg	Gly	Val	Asn	Ala	Ile	Val	Tyr	Met	Ile
			85					90					95		
Asp	Ala	Ala	Asp	Arg	Glu	Lys	Ile	Glu	Ala	Ser	Arg	Asn	Glu	Leu	His
		100						105					110		
Asn	Leu	Leu	Asp	Lys	Pro	Gln	Leu	Gln	Gly	Ile	Pro	Val	Leu	Val	Leu
		115					120					125			
Gly	Asn	Lys	Arg	Asp	Leu	Pro	Gly	Ala	Leu	Asp	Glu	Lys	Glu	Leu	Ile
	130					135					140				
Glu	Lys	Met	Asn	Leu	Ser	Ala	Ile	Gln	Asp	Arg	Glu	Ile	Cys	Cys	Tyr
145				150					155					160	
Ser	Ile	Ser	Cys	Lys	Glu	Lys	Asp	Asn	Ile	Asp	Ile	Thr	Leu	Gln	Trp
			165					170						175	
Leu	Ile	Gln	His	Ser	Lys	Ser	Arg	Arg	Ser						
			180					185							

<210> 4201
 <211> 917
 <212> DNA
 <213> Homo sapiens

<400> 4201
 ctgcaggacc tggagaatac ctgccctctc cctgcaacat cctccttttc ctttgcttcc
 60
 ctctcaact accgcaacat ctggaaaaat ctgcttatcc tgggcttcac caacttcatt
 120
 gcccattgcca ttcgccactg ctaccagcct gtgggaggag gagggagccc atcggacttc
 180
 tacctgtgct ctctgctggc cagcggancc gcagccctgg cctgtgtctt cctgggggtc
 240
 accgtggacc gatttgggccg ccggggcatc cttcttctct ccatgaccct taccggcatt
 300
 gcttccctgg tcctgctggg cctgtgggat tatctgaacg aggtgccat caccactttc
 360
 tctgtccttg ggctcttctc ctcccaagct gccgccatcc tcagcacctt ccttgctgct
 420
 gaggtcatcc ccaccactgt ccggggccgt ggctggggcc tgatcatggc tctaggggag
 480
 cttggaggac tgagcggccc ggcccagcgc ctccacatgg gccatggagc cttcctgcag
 540
 cacgtggtgc tggcggcctg cggcctcttc tgcattctca gcattatgct gctgccggag
 600
 accaagcgca agctcctgcc cgaggtgctc cgggacgggg agctgtgtcg ccggccttcc
 660
 ctgtgcggc agccaacccc taccgctgtg gaccacgtcc cgctgcttgc ccccccaac
 720
 cctgccctct gaacggcctc tgagtacctt cctgtgctt ttgcattcac ttccttggcc
 780
 agagtcaggg gacagggaga gagctccaca ctgtaaccac tgggtctggg ctccatcctg
 840
 cgcccaaaga catccacca gacctatta attcttgctc tatcaatctg tttcaataaa
 900
 gacatttggg ataaacg
 917

<210> 4202
 <211> 243
 <212> PRT
 <213> Homo sapiens

<400> 4202
 Leu Gln Asp Leu Glu Asn Thr Cys Pro Leu Pro Ala Thr Ser Ser Phe
 1 5 10 15
 Ser Phe Ala Ser Leu Leu Asn Tyr Arg Asn Ile Trp Lys Asn Leu Leu
 20 25 30
 Ile Leu Gly Phe Thr Asn Phe Ile Ala His Ala Ile Arg His Cys Tyr
 35 40 45
 Gln Pro Val Gly Gly Gly Gly Ser Pro Ser Asp Phe Tyr Leu Cys Ser
 50 55 60
 Leu Leu Ala Ser Gly Xaa Ala Ala Leu Ala Cys Val Phe Leu Gly Val

```

65              70              75              80
Thr Val Asp Arg Phe Gly Arg Arg Gly Ile Leu Leu Leu Ser Met Thr
              85              90              95
Leu Thr Gly Ile Ala Ser Leu Val Leu Leu Gly Leu Trp Asp Tyr Leu
              100              105              110
Asn Glu Ala Ala Ile Thr Thr Phe Ser Val Leu Gly Leu Phe Ser Ser
              115              120              125
Gln Ala Ala Ala Ile Leu Ser Thr Leu Leu Ala Ala Glu Val Ile Pro
              130              135              140
Thr Thr Val Arg Gly Arg Gly Leu Gly Leu Ile Met Ala Leu Gly Ala
              145              150              155              160
Leu Gly Gly Leu Ser Gly Pro Ala Gln Arg Leu His Met Gly His Gly
              165              170              175
Ala Phe Leu Gln His Val Val Leu Ala Ala Cys Ala Leu Leu Cys Ile
              180              185              190
Leu Ser Ile Met Leu Leu Pro Glu Thr Lys Arg Lys Leu Leu Pro Glu
              195              200              205
Val Leu Arg Asp Gly Glu Leu Cys Arg Arg Pro Ser Leu Leu Arg Gln
              210              215              220
Pro Thr Pro Thr Arg Cys Asp His Val Pro Leu Leu Ala Thr Pro Asn
              225              230              235              240
Pro Ala Leu

```

<210> 4203
 <211> 1368
 <212> DNA
 <213> Homo sapiens

```

<400> 4203
ntcctttcca ctagaagcga ggtgtgtact gcgtgcatgt ttgctgagcg ctcaccacgg
60
gctaggctcc atgccagtt cctgtgagga gaaaacacgt ttctatgtgc ccggcaggta
120
ggaggcactc acaaaatggt actttgtctt tacagaattt tctgaaggag agataaaaaa
180
tgagttaa ataatgatc agaattgatg agaaataact ttagacatta tttcattgaa
240
ccttcccaac tgaaattatt ttatgatgtt ataacatgga tagtaactca agtagcaata
300
agttacacag ttgtgccatt tgtgcttctt tctataaaac catcactcac gttttacagc
360
tcctggtatt attgcctgca cattcttggg atcttagtat tattgttggg gccagtga
420
aaaaactcaa agaagaaaga atacacatga aaacattcag ctctcacaat ccaaaaagtt
480
tgatgaagga gaaaattctt tgggacagaa cagtttttct acaacaaaca atgtttgcaa
540
tcagaatcaa gaaatagcct cgagacattc atcactaaag cagtgatcgg gaaggctctg
600
agggtgttt tttttttttg atgttaacag aaaccaatct tagcaccttt tcaaggggtt
660
tgagtttggg ggaaaagcag ttaactgggg ggaaatggac agttatagat aaggaatttc
720

```

ctgtacacca gattggaaat ggagtgaaac aagccctccc atgccatgtc cccgtggggc
 780
 acgccttatg taagaatatt tccatatttc agtgggcact cccaacctca gcacttgccc
 840
 gtagggtcac acgcgtgccc tgttgctgaa tgtatgttgc gtatcccaag gcactgaaga
 900
 ggtggaaaaa taatcgtgtc aatctggatg atagagagaa attaactttt ccaaatgaat
 960
 gtcttgccctt aaaccctcta tttcctaaaa tattgttcct aaatgggtatt ttcaagtgtg
 1020
 atattgtgag aacgctactg cagtagttga tgttggtgtc tgtaaaggat tttaggagga
 1080
 atttgaaaca ggatatttaa gagtgtggat atttttaaaa tgcaataaac atctcagtat
 1140
 ttgaagggtt ttcttaaagt atgtcaaag actacaatcc atagtgaaac tgtaaacagt
 1200
 aatggagccc aaattatagg tagctgattt tgctggagag tttaattacc ttgtgcagtc
 1260
 aaagagcgct tccagaagga atctcttaaa acataatgag aggttttgga atgtgatatt
 1320
 ttaagcttac tctttttctt aaaagagaga ggtgacgaag gaaggcag
 1368

<210> 4204

<211> 80

<212> PRT

<213> Homo sapiens

<400> 4204

Met	Arg	Asn	Asn	Phe	Arg	His	Tyr	Phe	Ile	Glu	Pro	Ser	Gln	Leu	Lys
1				5				10					15		
Leu	Phe	Tyr	Asp	Val	Ile	Thr	Trp	Ile	Val	Thr	Gln	Val	Ala	Ile	Ser
			20					25				30			
Tyr	Thr	Val	Val	Pro	Phe	Val	Leu	Leu	Ser	Ile	Lys	Pro	Ser	Leu	Thr
		35				40				45					
Phe	Tyr	Ser	Ser	Trp	Tyr	Tyr	Cys	Leu	His	Ile	Leu	Gly	Ile	Leu	Val
	50				55			60							
Leu	Leu	Leu	Leu	Pro	Val	Lys	Lys	Asn	Ser	Lys	Lys	Lys	Glu	Tyr	Thr
65				70				75					80		

<210> 4205

<211> 6523

<212> DNA

<213> Homo sapiens

<400> 4205

gaagaggagg aggaagagga agaggaagag gaggaggagg aggcagctcc tgatgtgatc
 60
 tttcaggaag acacctctca cacctctgcc cagaaggccc ctgagctccg gggcccagaa
 120
 tcacccagtc ccaagcctga gtactctgtt attgtggagg tccgctcgga tgatgacaag
 180
 gacgaggaca cccactcccg gaagtcaaca gtcactgacg agtcggagat gcaggacatg
 240

atgacccggg gaaacctggg cctcctggag caggccatcg ccctgaaggc tgaacagggtg
300
cgcacagtct gcgagccggg ctgcccgcct gccgagcaga gccagctggg cctgggagag
360
ccagggaagg cagcaaagcc cctggacact gtgcggaaga gttactacag taaagatcct
420
tcaagagctg agaagcgtga gatcaagtgt ccaacaccag gctgtgatgg cactggccac
480
gttaccgggt tgtaccctca ccaccgcagc ctttctggct gtccccacaa ggataggatc
540
ccccagaga tcttagccat gcatgagaac gtgctgaagt gcccactcc tggctgcaca
600
ggccagggtc acgtgaacag caaccgcaac acgcacagaa gtttgtctgg gtgtccatt
660
gctgccgccc aaaaattagc caaatcccat gagaagcagc agccgcagac aggagatcct
720
tccaagagta gctccaattc cgatcggatc ctcaggccca tgtgcttcgt gaagcagctc
780
gaggtcctc catatgggag ctaccggccc aacgtggccc ccgccacacc cagggccaac
840
ttggccaagg agctggagaa gttctccaag gtcaccttg actacgcaag tttcgatgct
900
caggtttttg gcaaacgcat gcttgcccca aagattcaga ccagcgaaac ctcacctaaa
960
gcctttcaat gctttgacta ctgcgaggac gccgaggctg cacacatggc tgccactgcc
1020
atcctgaacc tctccacgcg ctgctgggag atgcctgaga accttagcac gaagccacag
1080
gacctcccca gcaagtctgt ggatatcgag gtagacgaaa atggaaccct ggacttgagc
1140
atgcacaaac accgcaaacg agaaaatgct tccccagca gcagcagctg cagcagcagc
1200
cccgggtgta agtctcccga cgctcccag cgccacagca gcaccagcgc ccccagcagc
1260
tccatgacct ctcccagtc cagccaggcc tcccggcagg acgagtggga ccggcccctg
1320
gactacacca agcctagccg cctgagagag gaggaacctg aggagtcaga gccagcagcc
1380
cattcttttg cttcttctga agcagatgac caggaagtgt cggaagagaa ttttgaggag
1440
cggaagtatc cgggggaagt caccctgacc aactttaagc tgaagtttct ctccaaggac
1500
ataaagaagg agctgtcac ctgtcccacc cctggctgtg acggcagcgg ccacatcacc
1560
gggaactacg cctcccaccg cagcctctct ggttgccctc ttgctgacaa gagcctcaga
1620
aacctcatgg ctgccactc tgctgacctc aagtgcccc cgcccggtg tgacggctct
1680
ggccacatca cagggaacta cgcttcacac cggagcttgt ccggctgccc tegtgc aaag
1740
aaaagtggag tcaaggtggc accaccaag gacgacaagg aggacccga gctgatgaag
1800
tgccagttc caggctgtgt ggggctcggt cacatcagcg ggaaatacgc ctctcacagg
1860

agcgcacccg gctgcccact ggccgcccgc aggcagaagg aagggtccct caatggctcg
1920
tcatttcctt ggaagtcctt gaagaatgaa ggaccgacct gccccacccc gggctgtgac
1980
ggctctggcc acgccaatgg gagtttcttc acccaccgga gtttgtcagg ctgtcccaga
2040
gcaacctttg ctggaaagaa gggaaaactg tcaggggatg aggtcctcag tccaaagttc
2100
aagactagcg acgtgttgga gaatgatgag gagatcaagc agctgaacca ggagatccga
2160
gacctgaacg agtccaactc ggagatggag gctgccatgg tgcagctgca gtcccagatc
2220
tcctccatgg agaagaacct gaagaacatc gaggaggaga acaagctcat tgaggagcag
2280
aatgaagccc tgtttctgga gctgtccggc ctgagccagg ccctcatcca aagtctcgcc
2340
aatatccgcc ttccgcacat ggagccaata tgcgaacaga atttcgatgc ctatgtgagc
2400
accctcaccg acatgtactc caaccaggac ccggagaaca aggacctcct ggagagcatc
2460
aagcaggctg tgaggggcat ccagggtctag gccgtgtggt acccagaagt gtcccagccc
2520
accacaccgt ttacctccct cgccctgccc cgcaccgtgg ggatgcccac ctcacagtga
2580
cttcccgttt ggggcccggg gtggccgcgg gcgggtttat ccaaagggat ggctggaaat
2640
tggccgctcc cacgaggctc cctccaggct tggggccgtg gtggccctat ctgtgtgcat
2700
aggggactg aagaattaca aagtgattta ttttgtttt ctgaaagaaa tctgaagagc
2760
agctcaaagt ctccagtgga agctcatgga caaggttctc agtattgcct aagtgtaatc
2820
ttgaacatgg gcggtgctgt gagtgctggt gaagacaatg atgagctgat agataatttg
2880
aaagaagcac agtatatccg gactgagctg gtagagcagg ctttcagagc tatcgatcgt
2940
gcagactatt atcttgaaga atttaaagaa aatgcttata aagacttggc atggaagcat
3000
ggaaacattc acctctcagc cccgtgcac tactcggagg tgatggaagc cctagatctg
3060
cagcctggac tctcgtttct gaacctgggc agtggcactg ggtatctcag ctccatggtg
3120
ggcctcattc taggtccttt tgggtggaac catgggggtg aacttcactc agatgtgata
3180
gagtatgcaa agcagaaact ggacttcttc atcagaacaa gtgatagttt tgacaagttt
3240
gacttctgtg aaccttcctt tgttactggg aattgctgg agatttctcc ggattgttct
3300
cagtatgatc gtgtatactg tggggctggc gtgcagaaag agcatgaaga gtacatgaag
3360
aatcttctca aagtgggagg gatccttgtc atgccactgg aagagaagtt gactaagata
3420
acacgcacag gtccttcagc ttgggaaacc aaaaagattc ttgctgtttc ttttgcctc
3480

ctgatccagc cctgccattc agagtcagga aatcaagac ttgtccagtt accaccagtg
3540
gcagttcgca gcctccagga cttggctcgc atcgccatcc ggggcacat taaaaagatt
3600
attcatcagg aaactgtgag caaaaacgga aacggactaa agaacacccc caggttttaa
3660
cgaaggagag ttccgcccgc tcgaatggaa acgattgtct ttttggacaa agaagtcttt
3720
gccagtcgga tttccaaccc ctcagatgac aacagctgtg aagacttgga agaggaacgg
3780
agggaagaag aagagaagac cccgccggaa acaaagccag acccccagt gaacttccta
3840
cgccagaagg tcctgagcct ccctctgcca gatcccctga aatactactt gctttattac
3900
agagaaaaat aagtctcctg tttgaaagg ggaaatagga agagcagatt gctgagtgtg
3960
aagttcgtgc tgccgtgtgt ctgttgaagg gtcacctgga ggcagacgtt gtggggaagg
4020
gaactgctgg gctcatccac accatggttt tcttctagtt cctgattgac ctctaaaatt
4080
ctattcagtt gtatgatttg tttacatagt tccacaagac cttcattgca tagaagattg
4140
ttttcccaa gtggagagaa tcttcataga gaaaaagaga aggtgtttc ttttcggct
4200 actgaagtct gcgtaagaga gactgtttga tgaccgtccc tcatgcaaca 4260
tgcacggtac tcaactaaaa tgaaaactga agtggaaact aacctgtgtt gcttataaag
4320
tgtgaaagca caagcttata aatgtataaa atcttttctg ggtgtgacgc acctgcgtcc
4380
aagtttgaat ttttatgata tgtaccactt aattactggc actgagtatc actgaatttc
4440
ttagttttct agtggggaaa cattattgag aagccctccc ttattttaag taagtgtatt
4500
aatcttatg tgagttgcca gttgtaattt ttcaaaggaa aaattttgat ggggtggagg
4560
aatgaattgc cagataatct ttctggaatt ccgagagaat tccaaagagg gttttttttt
4620
tttttttag gacatctttt gataccttta aaagaaccac tgtcaagtaa tccttaaaag
4680
aatatcttgg aaaaggaaac agattttttc ctgtgtgtaa gcaataagtg aagttacatt
4740
tgccctaacc ctaggatga ttctttaccc agttttaag cccatcatgg tattctaagg
4800
tgttgacacc ctccatcctc agagcaggtc gaaaatatta aatagactgg ggactctatg
4860
atgggcagcc tgtgcttttt gacttcagtt tgctattttt ctgtgatcac attagtactg
4920
attcatagat tctatctttt ataattctgg agaaaaagat ttgttagttt tgtaattttt
4980
ttgtaagacc aaatgtatgt attttagtag ctccattgca tgagaagagt gtaactcaca
5040
ctgacttgtg atatcagcct tctctgggcc ttgtgtgtgg agagctttct atcttacaa
5100
gtggtagggc taaaagaaca acagcctttt tggtagtcac atagcagaat gatcagagtt
5160

acattgctta ttccaaaaca ttgggtcttt ttaaaacatt tttttttacc caaagaaaag
5220
aataatagaa attactaaca ataaatataa attcagagtg ttgatatagg attcagtatc
5280
cagagtttat ttttaatctt aatcctcagc ttcttgggag ttgctgggct tcagtgtctc
5340
tgtggtttca ccagcttagc ttgagctctg gttatttttg atcttttctg ctttttttaa
5400
gtaactgagt cattttttacc acacagtcca gtttgcattg atagctagga aacatgtatt
5460
gctctagatt gggcagttta agtcatttta aagaaagtta gttcatagtt gttgcctttt
5520
aactcatagt caagcttcag tctttcaaag agaaatgtgt gattttcatt tacttgtctg
5580
tattttgtag tttggagatc cttgtgggca ttattctaac tgatacgtag acacttactt
5640
ggaaattttt ggacattata ttaaatgagt gctatctgtg aaattgggta tattaggtgg
5700
cttgactaat gtttttttcta taattgtata tggactgcat ttttaaaaaa accgcatttg
5760
cctttatgct agattgtaaa aaattatatt agaatgcata agacatgttt ttccttcata
5820
tgctagactt ttcctagcat ttcgtatttc tgtgtgtgca gtgtgtgatt tttaaaccgg
5880
aatttggttt aaaaaaaatc tgggtggaat atatgtgaga aatactttgg tgtttacctt
5940
atgaaaataa aggattgtaa gtaaagtttc ctgcgcacct tataccagaa ttcagtataa
6000
tacactactt tctgttttca aacagataaa tcataatata gtctgtatta tctgtaagat
6060
ctgtcttgta aaccacattc ttgacaacta tttgcttttg agtagtttgt attttaatat
6120
gtgacttttg tcttgaaaag tagtaaagcc atagacttgt gcaaaacaag tttcaagttt
6180
atagatatta agtttgtaat gtgagcatca aatgtgtatg taaaaatact ttttaccagt
6240
ctggaacttg ggaaaatcca gggaatttga aacatagatt ttaatgagct ggtaaacaca
6300
aatcatgtca ataaaggtag tcaggatatt ttatccttag cattgcttct gcacctctgtg
6360
taggattcca attcttgaat atgttctttt caaaatctta agaaaagaac cttttttctt
6420
tattaacatc atgtgtttac tttcagcaaa tatttgtatt actgcttgat tctgtgacat
6480
tcacaataga tgtagagaag gcattatttt tcattaataa atg
6523

<210> 4206

<211> 829

<212> PRT

<213> Homo sapiens

<400> 4206

Glu Glu Glu Glu Glu Glu Glu Glu Glu Glu Glu Glu Glu Glu Ala Ala

```

      1           5           10           15
Pro Asp Val Ile Phe Gln Glu Asp Thr Ser His Thr Ser Ala Gln Lys
      20           25           30
Ala Pro Glu Leu Arg Gly Pro Glu Ser Pro Ser Pro Lys Pro Glu Tyr
      35           40           45
Ser Val Ile Val Glu Val Arg Ser Asp Asp Asp Lys Asp Glu Asp Thr
      50           55           60
His Ser Arg Lys Ser Thr Val Thr Asp Glu Ser Glu Met Gln Asp Met
      65           70           75           80
Met Thr Arg Gly Asn Leu Gly Leu Leu Glu Gln Ala Ile Ala Leu Lys
      85           90           95
Ala Glu Gln Val Arg Thr Val Cys Glu Pro Gly Cys Pro Pro Ala Glu
      100          105          110
Gln Ser Gln Leu Gly Leu Gly Glu Pro Gly Lys Ala Ala Lys Pro Leu
      115          120          125
Asp Thr Val Arg Lys Ser Tyr Tyr Ser Lys Asp Pro Ser Arg Ala Glu
      130          135          140
Lys Arg Glu Ile Lys Cys Pro Thr Pro Gly Cys Asp Gly Thr Gly His
      145          150          155          160
Val Thr Gly Leu Tyr Pro His His Arg Ser Leu Ser Gly Cys Pro His
      165          170          175
Lys Asp Arg Ile Pro Pro Glu Ile Leu Ala Met His Glu Asn Val Leu
      180          185          190
Lys Cys Pro Thr Pro Gly Cys Thr Gly Gln Gly His Val Asn Ser Asn
      195          200          205
Arg Asn Thr His Arg Ser Leu Ser Gly Cys Pro Ile Ala Ala Ala Glu
      210          215          220
Lys Leu Ala Lys Ser His Glu Lys Gln Gln Pro Gln Thr Gly Asp Pro
      225          230          235          240
Ser Lys Ser Ser Ser Asn Ser Asp Arg Ile Leu Arg Pro Met Cys Phe
      245          250          255
Val Lys Gln Leu Glu Val Pro Pro Tyr Gly Ser Tyr Arg Pro Asn Val
      260          265          270
Ala Pro Ala Thr Pro Arg Ala Asn Leu Ala Lys Glu Leu Glu Lys Phe
      275          280          285
Ser Lys Val Thr Phe Asp Tyr Ala Ser Phe Asp Ala Gln Val Phe Gly
      290          295          300
Lys Arg Met Leu Ala Pro Lys Ile Gln Thr Ser Glu Thr Ser Pro Lys
      305          310          315          320
Ala Phe Gln Cys Phe Asp Tyr Ser Gln Asp Ala Glu Ala Ala His Met
      325          330          335
Ala Ala Thr Ala Ile Leu Asn Leu Ser Thr Arg Cys Trp Glu Met Pro
      340          345          350
Glu Asn Leu Ser Thr Lys Pro Gln Asp Leu Pro Ser Lys Ser Val Asp
      355          360          365
Ile Glu Val Asp Glu Asn Gly Thr Leu Asp Leu Ser Met His Lys His
      370          375          380
Arg Lys Arg Glu Asn Ala Phe Pro Ser Ser Ser Ser Cys Ser Ser Ser
      385          390          395          400
Pro Gly Val Lys Ser Pro Asp Ala Ser Gln Arg His Ser Ser Thr Ser
      405          410          415
Ala Pro Ser Ser Ser Met Thr Ser Pro Gln Ser Ser Gln Ala Ser Arg
      420          425          430
Gln Asp Glu Trp Asp Arg Pro Leu Asp Tyr Thr Lys Pro Ser Arg Leu

```

435	440	445
Arg Glu Glu Glu Pro Glu Glu Ser Glu Pro Ala Ala His Ser Phe Ala		
450	455	460
Ser Ser Glu Ala Asp Asp Gln Glu Val Ser Glu Glu Asn Phe Glu Glu		
465	470	475
Arg Lys Tyr Pro Gly Glu Val Thr Leu Thr Asn Phe Lys Leu Lys Phe		480
485	490	495
Leu Ser Lys Asp Ile Lys Lys Glu Leu Leu Thr Cys Pro Thr Pro Gly		
500	505	510
Cys Asp Gly Ser Gly His Ile Thr Gly Asn Tyr Ala Ser His Arg Ser		
515	520	525
Leu Ser Gly Cys Pro Leu Ala Asp Lys Ser Leu Arg Asn Leu Met Ala		
530	535	540
Ala His Ser Ala Asp Leu Lys Cys Pro Thr Pro Gly Cys Asp Gly Ser		
545	550	555
Gly His Ile Thr Gly Asn Tyr Ala Ser His Arg Ser Leu Ser Gly Cys		
565	570	575
Pro Arg Ala Lys Lys Ser Gly Val Lys Val Ala Pro Thr Lys Asp Asp		
580	585	590
Lys Glu Asp Pro Glu Leu Met Lys Cys Pro Val Pro Gly Cys Val Gly		
595	600	605
Leu Gly His Ile Ser Gly Lys Tyr Ala Ser His Arg Ser Ala Ser Gly		
610	615	620
Cys Pro Leu Ala Ala Arg Arg Gln Lys Glu Gly Ser Leu Asn Gly Ser		
625	630	635
Ser Phe Ser Trp Lys Ser Leu Lys Asn Glu Gly Pro Thr Cys Pro Thr		
645	650	655
Pro Gly Cys Asp Gly Ser Gly His Ala Asn Gly Ser Phe Leu Thr His		
660	665	670
Arg Ser Leu Ser Gly Cys Pro Arg Ala Thr Phe Ala Gly Lys Lys Gly		
675	680	685
Lys Leu Ser Gly Asp Glu Val Leu Ser Pro Lys Phe Lys Thr Ser Asp		
690	695	700
Val Leu Glu Asn Asp Glu Glu Ile Lys Gln Leu Asn Gln Glu Ile Arg		
705	710	715
Asp Leu Asn Glu Ser Asn Ser Glu Met Glu Ala Ala Met Val Gln Leu		
725	730	735
Gln Ser Gln Ile Ser Ser Met Glu Lys Asn Leu Lys Asn Ile Glu Glu		
740	745	750
Glu Asn Lys Leu Ile Glu Glu Gln Asn Glu Ala Leu Phe Leu Glu Leu		
755	760	765
Ser Gly Leu Ser Gln Ala Leu Ile Gln Ser Leu Ala Asn Ile Arg Leu		
770	775	780
Pro His Met Glu Pro Ile Cys Glu Gln Asn Phe Asp Ala Tyr Val Ser		
785	790	795
Thr Leu Thr Asp Met Tyr Ser Asn Gln Asp Pro Glu Asn Lys Asp Leu		
805	810	815
Leu Glu Ser Ile Lys Gln Ala Val Arg Gly Ile Gln Val		
820	825	

<210> 4207

<211> 1016

<212> DNA

<213> Homo sapiens

<400> 4207

tttttttttg tgatttgggt ctgatctgcc tttgcatctg aagttcttga ctagtccagaa
 60
 gtttcttatt atttctgaca gacagggtct gaggagaaat taatttagtc ttttttcggg
 120
 tatcaactac tccaacagtt ttgccatgat cagctaattg agctacataa tccaaagacc
 180
 gctgggacaa ctcatatgcc ttacgaggac cttttttcag gccaaagttc tcagctgttg
 240
 aagttggctc aggacactga cgaaatttct ttggcggcac tatagcagga gttgttctac
 300
 aacttaggta atttgaactt ctattctgtc cttttttggc atctgaatga gttttcttag
 360
 gggctcttaga aactggaact ttcttgatgg gttctgtaca agtacaaagc tttgaagact
 420
 tcttttgtga aaccgtagtg gctctctgaa tacgtgaatt gggagttgaa gtccttctat
 480
 caatactttt aaaatcattt cccacaagct ctctcttatt agtatcagac tggccctcat
 540
 ttctgacaga agatgaagac ctacacaggat cttcagccat tggtttttca gatcgttttc
 600
 tcttaggctt ttttacttca atttcacaaa attcttcaac agaaatactc cgtgggtcttg
 660
 tgtgttcttc aatgccctct gtcctttttt taacaacttc agatacataa tctgtacaac
 720
 cctgaccatt tgtagtattg gctataggag ccaaacattt tttctcacca tcttgaactg
 780
 aattattatc gtctggatga tcttgccaaa ctgaaaacac ttcagatgaa ctttcaaact
 840
 caaaacactg agaatcagat tcctcaaact gaaaaagagt ctctgtcttt tcttccttta
 900
 ctggattctt ttctcttta ctattaactg ttgaaacgtg ctgctctgga tgttcctct
 960
 caaggcatat tttgtcctgt ttagtgagtt tctcaagact caggattctt tcatca
 1016

<210> 4208

<211> 193

<212> PRT

<213> Homo sapiens

<400> 4208

Met Ala Glu Asp Pro Val Arg Ser Ser Ser Val Arg Asn Glu Gly
 1 5 10 15
 Gln Ser Asp Thr Asn Lys Arg Glu Leu Val Gly Asn Asp Phe Lys Ser
 20 25 30
 Ile Asp Arg Arg Thr Ser Thr Pro Asn Ser Arg Ile Gln Arg Ala Thr
 35 40 45
 Thr Val Ser Gln Lys Lys Ser Ser Lys Leu Cys Thr Cys Thr Glu Pro
 50 55 60
 Ile Arg Lys Val Pro Val Ser Lys Thr Pro Lys Lys Thr His Ser Asp
 65 70 75 80
 Ala Lys Lys Gly Gln Asn Arg Ser Ser Asn Tyr Leu Ser Cys Arg Thr

3404

gagaccgcct cggagctggg tcgcgaggag gaggatgatg tggacctgga gctgcgcctg
1020
gcccgccttcg agcacctcat cagccggcgg cccctgcacc tcagcagcgt cttgctgcgc
1080
caaaacccac accacgtgca cgagtggcac aagcgtgtcg ccctgcacca gggccgcccc
1140
cgggagatca tcaacaccta cacagaggct gtgcagacgg tggacctt caagggcaca
1200
ggcaagcccc acactctgtg ggtggcgttt gccaaagttt atgaggacaa cggacagctg
1260
gacgatgccc gtgtcatcct ggagaaggcc accaagggtga acttcaagca ggtggatgac
1320
ctggcaagcg tgtggtgtca gtgcggagag ctggagctcc gacacgagaa ctacgatgag
1380
gccttgccgc tgctgcgaaa ggccacggcg ctgcctccgc cgggcccagat atttgatggt
1440
tcagagcccc tgcagaaccg cgtgtacaag tactgaagg tctgggtccat gctcgccgac
1500
ctggaggaga gcctcggcac cttccagtcc accaaggccg tgtacgaccg catcctggac
1560
ctgcgtatcg caacacccca gatcgtcatc aactatgcca tgttcctgga ggagcacaag
1620
tacttcgagg agagcttcaa ggcgtacgag cgcggcatct cgctgttcaa gtggcccaac
1680
gtgtccgaca tctggagcac ctacctgacc aaattcattg cccgctatgg gggccgcaag
1740
ctggagcggg cacgggacct gtttgaacag gctctggacg gctgcccccc aaaatatgcc
1800
aagaccttgt acctgctgta cgcacagctg gaggaggagt ggggcctggc cgggcatgcc
1860
atggccgtgt acgagcgtgc caccagggcc gtggagcccc cccagcagta tgacatgttc
1920
aacatctaca tcaagcgggc ggccgagatc tatgggggtca cccacacccg cggcatctac
1980
cagaaggcca ttgaggtgct gtcggacgag cacgcgcgtg agatgtgcct gcggtttgca
2040
gacatggagt gcaagctcgg ggagatcgac cgcgcccggg ctatctacag cttctgctcc
2100
cagatctgtg atccccggac aactggggca ttctggcaaa cgtggaagga ctttgaggtc
2160
cggcatggca acgaggacac catcaggag atgctgagga tacggcggag tgtgcaggcc
2220
acgtacaaca ctcagggtcaa cttcatggcc tcgcagatgc tcaaggtgtc gggcagtgcc
2280
acgggcaccg tgtctgacct ggctcccggg cagagcggca tggatgacat gaagttgctg
2340
gaacagagag cagaacagct ggcggctgag gcggagcgtg accagccctt gcgcgcccag
2400
agcaagatcc tgttcgtgag gagtgcgcc tcccgggagg agctggcaga gctggcacag
2460
caggtcaacc ccgaggagat ccagctgggc gaggacgagg acgaggacga gatggacctg
2520
gagcccaacg aggttcggct ggagcagcag agcgtgccag ccgcagtgtt tgggagcctg
2580

aaggaagact gacccgtccc tcccccatcc cccctcccca cccctccccc aatacagcta
 2640
 cgtttgtaca tcaaaaaaaaa a
 2661

<210> 4210

<211> 863

<212> PRT

<213> Homo sapiens

<400> 4210

Xaa	Ser	Cys	Thr	Trp	Ala	Ser	Arg	Lys	Met	Val	Val	Met	Ala	Arg	Leu
1			5					10					15		
Ser	Arg	Pro	Glu	Arg	Pro	Asp	Leu	Val	Phe	Glu	Glu	Glu	Asp	Leu	Pro
			20				25						30		
Tyr	Glu	Glu	Glu	Ile	Met	Arg	Asn	Gln	Phe	Ser	Val	Lys	Cys	Trp	Leu
	35					40						45			
Arg	Tyr	Ile	Glu	Phe	Lys	Gln	Gly	Ala	Pro	Lys	Pro	Arg	Leu	Asn	Gln
	50				55						60				
Leu	Tyr	Glu	Arg	Ala	Leu	Lys	Leu	Leu	Pro	Cys	Ser	Tyr	Lys	Leu	Trp
65					70					75				80	
Tyr	Arg	Tyr	Leu	Lys	Ala	Arg	Arg	Ala	Gln	Val	Lys	His	Arg	Cys	Val
			85					90						95	
Thr	Asp	Pro	Ala	Tyr	Glu	Asp	Val	Asn	Asn	Cys	His	Glu	Arg	Ala	Phe
			100					105					110		
Val	Phe	Met	His	Lys	Met	Pro	Arg	Leu	Trp	Leu	Asp	Tyr	Cys	Gln	Phe
		115					120					125			
Leu	Met	Asp	Gln	Gly	Arg	Val	Thr	His	Thr	Arg	Arg	Thr	Phe	Asp	Arg
		130				135					140				
Ala	Leu	Arg	Ala	Leu	Pro	Ile	Thr	Gln	His	Ser	Arg	Ile	Trp	Pro	Leu
145					150					155				160	
Tyr	Leu	Arg	Phe	Leu	Arg	Ser	His	Pro	Leu	Pro	Glu	Thr	Ala	Val	Arg
			165					170						175	
Gly	Tyr	Arg	Arg	Phe	Leu	Lys	Leu	Ser	Pro	Glu	Ser	Ala	Glu	Glu	Tyr
		180						185					190		
Ile	Glu	Tyr	Leu	Lys	Ser	Ser	Asp	Arg	Leu	Asp	Glu	Ala	Ala	Gln	Arg
		195					200					205			
Leu	Ala	Thr	Val	Val	Asn	Asp	Glu	Arg	Phe	Val	Ser	Lys	Ala	Gly	Lys
		210				215					220				
Ser	Asn	Tyr	Gln	Leu	Trp	His	Glu	Leu	Cys	Asp	Leu	Ile	Ser	Gln	Asn
225					230					235				240	
Pro	Asp	Lys	Val	Gln	Ser	Leu	Asn	Val	Asp	Ala	Ile	Ile	Arg	Gly	Gly
			245					250						255	
Leu	Thr	Arg	Phe	Thr	Asp	Gln	Leu	Gly	Lys	Leu	Trp	Cys	Ser	Leu	Ala
		260						265					270		
Asp	Tyr	Tyr	Ile	Arg	Ser	Gly	His	Phe	Glu	Lys	Ala	Arg	Asp	Val	Tyr
		275				280						285			
Glu	Glu	Ala	Ile	Arg	Thr	Val	Met	Thr	Val	Arg	Asp	Phe	Thr	Gln	Val
		290				295					300				
Phe	Asp	Ser	Tyr	Ala	Gln	Phe	Glu	Glu	Ser	Met	Ile	Ala	Ala	Lys	Met
305					310					315				320	
Glu	Thr	Ala	Ser	Glu	Leu	Gly	Arg	Glu	Glu	Asp	Asp	Val	Asp	Leu	
			325					330					335		
Glu	Leu	Arg	Leu	Ala	Arg	Phe	Glu	His	Leu	Ile	Ser	Arg	Arg	Pro	Leu

[illegible]

```

      770              775              780
Glu Gln Leu Ala Ala Glu Ala Glu Arg Asp Gln Pro Leu Arg Ala Gln
785              790              795              800
Ser Lys Ile Leu Phe Val Arg Ser Asp Ala Ser Arg Glu Glu Leu Ala
      805              810              815
Glu Leu Ala Gln Gln Val Asn Pro Glu Glu Ile Gln Leu Gly Glu Asp
      820              825              830
Glu Asp Glu Asp Glu Met Asp Leu Glu Pro Asn Glu Val Arg Leu Glu
      835              840              845
Gln Gln Ser Val Pro Ala Ala Val Phe Gly Ser Leu Lys Glu Asp
      850              855              860

```

<210> 4211

<211> 456

<212> DNA

<213> Homo sapiens

<400> 4211

```

ggggatcgct agccccagc ttctcagaac taaatatgaa agctcttgct cgtctacgct
60
tagttacaac agactccctg ggcctactgt aggggtcaag agcagatttc cagactctca
120
agctggaaaa gagacgctcc aactgcgcac gacaaccaac acatgggaca agctgagaaa
180
gtgcactcag gacttcgcgt gatgtcacca ccatggcaat acttagatcc tgttgcttaa
240
gcataccatg tcgctgaaag agggaaagaa aatgaaagag cgtcctttaa aaagacgtaa
300
aattacactt tcactactac tggttccctat ccttgctgcag taaagtacaa cctggccagg
360
gtttaccagc tctacctgca actgagtcag aaaggcaaag tagtcagctt tgtccatgct
420
gtacggaatt tgetccacaa acccccttgc tctaga
456

```

<210> 4212

<211> 81

<212> PRT

<213> Homo sapiens

<400> 4212

```

Met Leu Lys Gln Gln Asp Leu Ser Ile Ala Met Val Val Thr Ser Arg
 1              5              10              15
Glu Val Leu Ser Ala Leu Ser Gln Leu Val Pro Cys Val Gly Cys Arg
      20              25              30
Arg Ser Val Glu Arg Leu Phe Ser Ser Leu Arg Val Trp Lys Ser Ala
      35              40              45
Leu Asp Pro Tyr Ser Arg Pro Arg Glu Ser Val Val Thr Lys Arg Arg
      50              55              60
Arg Ala Arg Ala Phe Ile Phe Ser Ser Glu Lys Leu Gly Ala Ser Asp
65              70              75              80
Pro

```

<210> 4213
 <211> 383
 <212> DNA
 <213> Homo sapiens

<400> 4213
 nacgcgtacc tgtgccagcg cgcgcgcttc ttcgcagaga acgagggcct agacgactac
 60
 atggaggcac gcgagggcat gcacctcaag aacgtggact tccgtgagtt catggtggcc
 120
 ttcccggacc cggcccggcc gccctggtac gcctgctcgt cggccttctg ggccgcggcg
 180
 ctgctcacgc tgtcgtggcc gctgcgagtg ctggccgagt accgcacggc ctacgcgcac
 240
 taccacgtgg agaagctgtt tggcctggag ggcccgggct cggccagcag cgcaggcggt
 300
 ggcctcagcc ccagcgatga gctgctgccc ccgctcacc accgctgcc gcgggtcaac
 360
 acagtagaca gcacggagct cgg
 383

<210> 4214
 <211> 127
 <212> PRT
 <213> Homo sapiens

<400> 4214
 Xaa Ala Tyr Leu Cys Gln Arg Ala Arg Phe Phe Ala Glu Asn Glu Gly
 1 5 10 15
 Leu Asp Asp Tyr Met Glu Ala Arg Glu Gly Met His Leu Lys Asn Val
 20 25 30
 Asp Phe Arg Glu Phe Met Val Ala Phe Pro Asp Pro Ala Arg Pro Pro
 35 40 45
 Trp Tyr Ala Cys Ser Ser Ala Phe Trp Ala Ala Ala Leu Leu Thr Leu
 50 55 60
 Ser Trp Pro Leu Arg Val Leu Ala Glu Tyr Arg Thr Ala Tyr Ala His
 65 70 75 80
 Tyr His Val Glu Lys Leu Phe Gly Leu Glu Gly Pro Gly Ser Ala Ser
 85 90 95
 Ser Ala Gly Gly Gly Leu Ser Pro Ser Asp Glu Leu Leu Pro Pro Leu
 100 105 110
 Thr His Arg Leu Pro Arg Val Asn Thr Val Asp Ser Thr Glu Leu
 115 120 125

<210> 4215
 <211> 939
 <212> DNA
 <213> Homo sapiens

<400> 4215
 nggtacctcg gctgaataaa aattcaaaaa aacagcaatg gacaggaact tgagaagacg
 60
 ctggaagaaa gcaaagaaat ggatatcaaa cgtaaagaaa ataaaggcaa tgatacccct
 120

ttggccctag agagtacaaa cactgaaaag gagacaagcc tggaggaaac aaaaatcggg
 180
 gagatcctga tccagggcctt gacagaagat atggtgactg ttttaatccg ggccctgcgtg
 240
 agcatgctgg gagtcctgt ggaccagat actttgcatg ccaccctttg tttctgttg
 300
 agggtcactc ggggccccca attagccatg atgtttgcag aactgaagaa taccgcgatg
 360
 atcttgaatt tgaccagag ctcaggcttc aatgggttta cttccctggg cacccttctc
 420
 ttaagacaca tcattgagga cccctgtacc cttcgtcata ccatggaaaa ggttgttcgc
 480
 tcagcagcta caagtggagc tggtagcact acctctggtg ttgtgtctgg cagcctcggc
 540
 tctcgggaga tcaactacat ccttcgtgct cttgggcccag ccgcatgccg caatccagac
 600
 atattcacag aagtggccaa ctgctgtatc cgcctcggcc ttcttgcccc tcgaggctca
 660
 ggaactgctt cagatgatga atttgagaat cttagaatta aaggccctaa tgctgtacag
 720
 ctggtgaaga ccaccctttt gaagccctca cctctgcttg tcatccctga tactatcaag
 780
 gaagtgatct atgatatgct gaatgctctg gctgcatacc atgctccaga ggaagcagat
 840
 aaatctgatc ctaaacctgg ggttatgacc caagaggttg gccagctcct gcaagacatg
 900
 ggtgatgatg tataccagca gtaccggtca cttacgcgt
 939

<210> 4216

<211> 287

<212> PRT

<213> Homo sapiens

<400> 4216

Met	Asp	Ile	Lys	Arg	Lys	Glu	Asn	Lys	Gly	Asn	Asp	Thr	Pro	Leu	Ala
1				5					10					15	
Leu	Glu	Ser	Thr	Asn	Thr	Glu	Lys	Glu	Thr	Ser	Leu	Glu	Glu	Thr	Lys
			20					25					30		
Ile	Gly	Glu	Ile	Leu	Ile	Gln	Gly	Leu	Thr	Glu	Asp	Met	Val	Thr	Val
		35				40					45				
Leu	Ile	Arg	Ala	Cys	Val	Ser	Met	Leu	Gly	Val	Pro	Val	Asp	Pro	Asp
	50				55					60					
Thr	Leu	His	Ala	Thr	Leu	Cys	Phe	Cys	Leu	Arg	Val	Thr	Arg	Gly	Pro
65				70				75					80		
Gln	Leu	Ala	Met	Met	Phe	Ala	Glu	Leu	Lys	Asn	Thr	Arg	Met	Ile	Leu
			85					90					95		
Asn	Leu	Thr	Gln	Ser	Ser	Gly	Phe	Asn	Gly	Phe	Thr	Pro	Leu	Val	Thr
		100					105					110			
Leu	Leu	Leu	Arg	His	Ile	Ile	Glu	Asp	Pro	Cys	Thr	Leu	Arg	His	Thr
		115				120					125				
Met	Glu	Lys	Val	Val	Arg	Ser	Ala	Ala	Thr	Ser	Gly	Ala	Gly	Ser	Thr
	130				135						140				
Thr	Ser	Gly	Val	Val	Ser	Gly	Ser	Leu	Gly	Ser	Arg	Glu	Ile	Asn	Tyr

145 150 155 160
 Ile Leu Arg Val Leu Gly Pro Ala Ala Cys Arg Asn Pro Asp Ile Phe
 165 170 175
 Thr Glu Val Ala Asn Cys Cys Ile Arg Ile Ala Leu Pro Ala Pro Arg
 180 185 190
 Gly Ser Gly Thr Ala Ser Asp Asp Glu Phe Glu Asn Leu Arg Ile Lys
 195 200 205
 Gly Pro Asn Ala Val Gln Leu Val Lys Thr Thr Pro Leu Lys Pro Ser
 210 215 220
 Pro Leu Pro Val Ile Pro Asp Thr Ile Lys Glu Val Ile Tyr Asp Met
 225 230 235 240
 Leu Asn Ala Leu Ala Ala Tyr His Ala Pro Glu Glu Ala Asp Lys Ser
 245 250 255
 Asp Pro Lys Pro Gly Val Met Thr Gln Glu Val Gly Gln Leu Leu Gln
 260 265 270Met Gly Asp Asp
 Val Tyr Gln Gln Tyr Arg Ser Leu Thr Arg
 275 280 285

<210> 4217

<211> 619

<212> DNA

<213> Homo sapiens

<400> 4217

acacacacac gcacacaaaa ctcagccaca ggctcaccag ggtctctctc aacatgcaca
 60
 catcacaca cacaccctc agtcataggc tcacaagagt ctctcttgtc tctctctcat
 120
 acatacacac acacacacaa ccagccacag gccacaaaag gtgtctctct ctttgctcct
 180
 gtctgtctct tcgcactcac acacacacat ctcagccaca ggcccaccag agtctgtctg
 240
 tctctttgtc tctctcactc tctctcacac acatacacct cagccacagg cccacaagg
 300
 tctctctcct tgtccctggc tctctctctc cgcacactcc cacacacaca catcacagctc
 360
 agccacaggc ccacgagggg gtctctctct ctctctctct ctcacacaca cacacacaca
 420
 cacacacgcc tgtgcagctc cacagggggc tggggcagga gacagatctg aatacacata
 480
 ccaccctgtg ctgtgagtgg ccactcccat ccaacaactg agactttctg ttactggggc
 540
 aagggtttct gccaaactca cttcccttat aatgaatgaa ttatccctca gaaggttcca
 600
 cagtcctccc ctggcgcg
 619

<210> 4218

<211> 155

<212> PRT

<213> Homo sapiens

<400> 4218

Met His Thr Tyr Thr His Thr Pro Leu Ser His Arg Leu Thr Arg Val

```

      1           5           10           15
Ser Leu Val Ser Leu Ser Tyr Ile His Thr His Thr Gln Pro Ala Thr
      20           25           30
Gly Pro Gln Arg Cys Leu Ser Leu Cys Pro Cys Leu Leu Ser Arg Thr
      35           40           45
His Thr His Thr Ser Gln Pro Gln Ala His Gln Ser Leu Ser Val Ser
      50           55           60
Leu Ser Leu Ser Leu Ser Leu Thr His Ile His Leu Ser His Arg Pro
      65           70           75           80
Thr Arg Val Ser Leu Leu Val Pro Gly Ser Ser Leu Ser His Thr Pro
      85           90           95
Thr His Thr His Thr Ala Gln Pro Gln Ala His Glu Gly Val Ser Leu
      100          105          110
Ser Leu Ser Leu Ser His Thr His Thr His Thr Pro Val Gln
      115          120          125
Leu His Arg Gly Leu Gly Gln Glu Thr Asp Leu Asn Thr His Thr Thr
      130          135          140
Leu Cys Cys Glu Trp Pro Leu Pro Ser Asn Asn
      145          150          155

```

<210> 4219

<211> 774

<212> DNA

<213> Homo sapiens

<400> 4219

```

ngcggccgcg cacctgctcc cgtcgcccta cagcaagatc acgccccgc ggaggcccca
60
ccgctgcagc agcggccacg gcagcgacaa cagcagcgtg ctgagcgggg agctcccgcc
120
ggccatgggg aagacggccc tgttctacca cagcggcggc agcagcggct acgagagcgt
180
gatgcgggac agcagaggcca ccggcagcgc gtctctggcg caggactcca cgagcgagaa
240
cagcagctcc gtgggcggca ggtgccggag cctcaagacc ccgaagaaac gctccaatcc
300
aggttctcag agacggaggc ttatcccagc actatccctg gacacctctt cccctgtgag
360
aaaaccccc aacagcacag gcgtccgctg ggtggatggn nccccttgcg gagcagcccg
420
aggggccttg gggaaccttt gagattaaag tctnatgaaa tcgatgacgt ggagcgcctg
480
cagcggcgac gagggggtgc cagcaaggag gccatgtgct tcaatgcaaa gctgaagatt
540
ctggaacacc gccagcagag gatcgccgag gtccgcgcga agtacgagtg gctgatgaag
600
gagctggagg cgaccaaaca gtatctgatg ctggatccca acaagtggct cagtgaattt
660
gacttgagc aggtttggga gctggattcc ctggagtacc tggaggcact ggagtgtgtg
720
acggagcgcc tggagagccg tgtcaacttc tgcaaggccc atctcatgat gctc
774

```

<210> 4220

<211> 258
 <212> PRT
 <213> Homo sapiens

<400> 4220
 Xaa Gly Arg Ala Pro Ala Pro Val Ala Leu Gln Gln Asp His Ala Pro
 1 5 10 15
 Ala Glu Ala Pro Pro Leu Gln Gln Arg Pro Arg Gln Arg Gln Gln Gln
 20 25 30
 Arg Ala Glu Arg Gly Ala Pro Ala Gly His Gly Glu Asp Gly Pro Val
 35 40 45
 Leu Pro Gln Arg Arg Gln Gln Arg Leu Arg Glu Arg Asp Ala Gly Gln
 50 55 60
 Arg Gly His Arg Gln Arg Val Leu Gly Ala Gly Leu His Glu Arg Glu
 65 70 75 80
 Gln Gln Leu Arg Gly Arg Gln Val Pro Glu Pro Gln Asp Pro Glu Glu
 85 90 95
 Thr Leu Gln Ser Arg Phe Ser Glu Thr Glu Ala Tyr Pro Ser Thr Ile
 100 105 110
 Pro Gly His Leu Phe Pro Cys Glu Lys Thr Pro Gln Gln His Arg Arg
 115 120 125
 Pro Leu Gly Gly Trp Xaa Pro Leu Arg Ser Ser Pro Arg Gly Leu Gly
 130 135 140
 Glu Pro Leu Arg Leu Lys Ser Xaa Glu Ile Asp Asp Val Glu Arg Leu
 145 150 155 160
 Gln Arg Arg Arg Gly Gly Ala Ser Lys Glu Ala Met Cys Phe Asn Ala
 165 170 175
 Lys Leu Lys Ile Leu Glu His Arg Gln Gln Arg Ile Ala Glu Val Arg
 180 185 190
 Ala Lys Tyr Glu Trp Leu Met Lys Glu Leu Glu Ala Thr Lys Gln Tyr
 195 200 205
 Leu Met Leu Asp Pro Asn Lys Trp Leu Ser Glu Phe Asp Leu Glu Gln
 210 215 220
 Val Trp Glu Leu Asp Ser Leu Glu Tyr Leu Glu Ala Leu Glu Cys Val
 225 230 235 240
 Thr Glu Arg Leu Glu Ser Arg Val Asn Phe Cys Lys Ala His Leu Met
 245 250 255
 Met Leu

<210> 4221
 <211> 789
 <212> DNA
 <213> Homo sapiens

<400> 4221
 aatgtgaaga ggattaaaga ataaagaaaa aacaaaaaag tcttatacta aaataagaaa
 60
 tcagcccccatttggcacag ttctcatgca gaatattgca cccagtgtga actaacgcta
 120
 gaagcttcaa actgtataaa tttaaagtga tttgcatatt ataaaaataa agataaacat
 180
 atacatattt tacactagtt atggaacagc aatgaacgtc agtcgatccc tctttcacat
 240

ttaacagaac tgaaatctga gtgctctaaa tactgccacc tgtactgtaa ctatggctta
 300
 tatgtgcacg gaaaacaaaa tccctgagaa gccattcgac tttttttttt tttcttttct
 360
 tcaagtagcg cgctccttgg aggatcacag ttctgaggtt caggttgtaa aacatttgct
 420
 ccatgtttctc gtccatgctt cccccaccca cccctcccc acctcttccc cagtcgtcca
 480
 aaaagcacc tgcaagcacg cgttgctact caagttcaca gaacacgctg gggtgagtgc
 540
 agagggtctg ccagggtcaa aagatgggtcc aggtgttcag atgctctctt ttctccatgg
 600
 aaattccaca gccacaaaacg tcaactgggtt ctgtgctttt caccaacatt ctcccttaa
 660
 aaattgggtgc tcctaaagtc acagtttggg tacagtaaaa atgatggcat aaggaaaaga
 720
 agcactatct tttccactta atttccaag aaagtatgaa gatacttgga acaggggctg
 780
 atcacagtc
 789

<210> 4222

<211> 127

<212> PRT

<213> Homo sapiens

<400> 4222

Met	Ala	Tyr	Met	Cys	Thr	Glu	Asn	Lys	Ile	Pro	Glu	Lys	Pro	Phe	Asp
1				5					10					15	
Phe	Phe	Phe	Phe	Ser	Phe	Leu	Gln	Val	Ala	Arg	Ser	Leu	Glu	Asp	His
			20					25					30		
Ser	Ser	Glu	Val	Gln	Val	Val	Lys	His	Leu	Leu	His	Val	Leu	Val	His
		35					40					45			
Ala	Ser	Pro	His	His	Pro	Leu	Pro	Thr	Ser	Ser	Pro	Val	Val	Gln	Lys
	50					55					60				
Ala	Pro	Cys	Lys	His	Ala	Leu	Ser	Leu	Lys	Phe	Thr	Glu	His	Ala	Gly
65				70					75					80	
Val	Ser	Ala	Glu	Gly	Leu	Pro	Gly	Ala	Lys	Asp	Gly	Pro	Gly	Val	Gln
			85					90					95		
Met	Leu	Ser	Phe	Leu	His	Gly	Asn	Ser	Thr	Ala	Thr	Asn	Val	Thr	Gly
			100				105					110			
Phe	Cys	Ala	Phe	His	Gln	His	Ser	Ser	Leu	Lys	Asn	Trp	Cys	Ser	
		115					120					125			

<210> 4223

<211> 852

<212> DNA

<213> Homo sapiens

<400> 4223

atcctggacc agggctacta ctccggagcga gacacaagca acgtgggtacg gcaagtcctg
 60
 gagggcctgg cctatttgca ctcaactcaag atcgtgcaca ggaatctcaa gctggagaac
 120

ctggtttact acaaccggct gaagaactcg aagattgtca tcagtgactt ccatctggct
 180
 aagctagaaa atggcctcat caaggagccc tgtgggaccc ccgaagattt tgcccccaa
 240
 ggggaaggcc ggcagcggta tggacgccct gtggactgct gggccattgg agtcatcatg
 300
 tacatcctgc tttcaggcaa tccaccttcc tatgaggagg tggagaaga tgattatgag
 360
 aaccatgata agaatctctt ccgcaagatc ctggctgggtg actatgagtt tgactctcca
 420
 tattgggatg atatttcgca ggcagccaaa gacctgggtc caaggctgat ggaggtggag
 480
 caagaccagc ggatcactgc agaagaggcc atctcccatg agtggatttc tggcaatgct
 540
 gcttctgata agaacatcaa ggatgggtgc tgtgcccaga ttgaaaagaa ctttgccagg
 600
 gccaagtgga agaaggctgt ccgagtgacc accctcatga aacggctccg ggcaccagag
 660
 cagtccagca cggctgcagc ccagtcggcc tcagccacag aactgccac ccccggggct
 720
 gcagaccgta gtgccacccc agccacagat ggaagtgcc cccagccac tgatggcagt
 780
 gtcaccccag ccaccgatgg aagcatcact ccagccattg atgggagtgt caccacagcc
 840
 actgacagga gc
 852

<210> 4224

<211> 284

<212> PRT

<213> Homo sapiens

<400> 4224

Ile	Leu	Asp	Gln	Gly	Tyr	Tyr	Ser	Glu	Arg	Asp	Thr	Ser	Asn	Val	Val
1				5				10					15		
Arg	Gln	Val	Leu	Glu	Ala	Val	Ala	Tyr	Leu	His	Ser	Leu	Lys	Ile	Val
		20					25						30		
His	Arg	Asn	Leu	Lys	Leu	Glu	Asn	Leu	Val	Tyr	Tyr	Asn	Arg	Leu	Lys
		35					40					45			
Asn	Ser	Lys	Ile	Val	Ile	Ser	Asp	Phe	His	Leu	Ala	Lys	Leu	Glu	Asn
	50				55				60						
Gly	Leu	Ile	Lys	Glu	Pro	Cys	Gly	Thr	Pro	Glu	Asp	Phe	Ala	Pro	Gln
65				70				75						80	
Gly	Glu	Gly	Arg	Gln	Arg	Tyr	Gly	Arg	Pro	Val	Asp	Cys	Trp	Ala	Ile
			85				90							95	
Gly	Val	Ile	Met	Tyr	Ile	Leu	Leu	Ser	Gly	Asn	Pro	Pro	Phe	Tyr	Glu
		100					105						110		
Glu	Val	Glu	Glu	Asp	Asp	Tyr	Glu	Asn	His	Asp	Lys	Asn	Leu	Phe	Arg
	115					120						125			
Lys	Ile	Leu	Ala	Gly	Asp	Tyr	Glu	Phe	Asp	Ser	Pro	Tyr	Trp	Asp	Asp
	130				135					140					
Ile	Ser	Gln	Ala	Ala	Lys	Asp	Leu	Val	Thr	Arg	Leu	Met	Glu	Val	Glu
145					150					155				160	
Gln	Asp	Gln	Arg	Ile	Thr	Ala	Glu	Glu	Ala	Ile	Ser	His	Glu	Trp	Ile

```

                165                170                175
Ser Gly Asn Ala Ala Ser Asp Lys Asn Ile Lys Asp Gly Val Cys Ala
                180                185                190
Gln Ile Glu Lys Asn Phe Ala Arg Ala Lys Trp Lys Lys Ala Val Arg
                195                200                205
Val Thr Thr Leu Met Lys Arg Leu Arg Ala Pro Glu Gln Ser Ser Thr
                210                215                220
Ala Ala Ala Gln Ser Ala Ser Ala Thr Asp Thr Ala Thr Pro Gly Ala
225                230                235                240
Ala Asp Arg Ser Ala Thr Pro Ala Thr Asp Gly Ser Ala Thr Pro Ala
                245                250                255
Thr Asp Gly Ser Val Thr Pro Ala Thr Asp Gly Ser Ile Thr Pro Ala
                260                265                270
Ile Asp Gly Ser Val Thr Pro Ala Thr Asp Arg Ser
                275                280

```

<210> 4225
 <211> 470
 <212> DNA
 <213> Homo sapiens

```

<400> 4225
nntgtacaag aaagtgagcc agtcatcgtc aatattcaag tgatggatgc aaatgataac
60
acgccaacct tccctgaaat atcctatgat gtgtatgttt atacagacat gagacctggg
120
gacagggtcc tacagttaac tgcagtcgac gcagacgaag ggtcaaattg ggagatcaca
180
tatgaaatcc ttgttggggc tcaggagac ttcatcatca ataaaacaac agggcttacc
240
accatcgctc caggggtgga aatgatagtc gggcggactt acgcactccc ggtccaagca
300
gcgataatg ctcctcctgc aaagcaaagg actcccatct gcactgtgta tattgaagtg
360
cttcaccaa ataatcaaag cctcctcgc ttccacagc tgatgtatag ccttgaaatt
420
agtgaagcca tgagggttgg tgctgtttta ttaaacttac aggcaactga
470

```

<210> 4226
 <211> 156
 <212> PRT
 <213> Homo sapiens

```

<400> 4226
Xaa Val Gln Glu Ser Glu Pro Val Ile Val Asn Ile Gln Val Met Asp
1      5      10      15
Ala Asn Asp Asn Thr Pro Thr Phe Pro Glu Ile Ser Tyr Asp Val Tyr
20     25     30
Val Tyr Thr Asp Met Arg Pro Gly Asp Arg Val Leu Gln Leu Thr Ala
35     40     45
Val Asp Ala Asp Glu Gly Ser Asn Gly Glu Ile Thr Tyr Glu Ile Leu
50     55     60
Val Gly Ala Gln Gly Asp Phe Ile Ile Asn Lys Thr Thr Gly Leu Ile

```

65		70		75		80									
Thr	Ile	Ala	Pro	Gly	Val	Glu	Met	Ile	Val	Gly	Arg	Thr	Tyr	Ala	Leu
				85					90					95	
Pro	Val	Gln	Ala	Ala	Asp	Asn	Ala	Pro	Pro	Ala	Lys	Gln	Arg	Thr	Pro
		100						105					110		
Ile	Cys	Thr	Val	Tyr	Ile	Glu	Val	Leu	Pro	Pro	Asn	Asn	Gln	Ser	Pro
		115					120					125			
Pro	Arg	Phe	Pro	Gln	Leu	Met	Tyr	Ser	Leu	Glu	Ile	Ser	Glu	Ala	Met
	130					135				140					
Arg	Val	Gly	Ala	Val	Leu	Leu	Asn	Leu	Gln	Ala	Thr				
145					150					155					

<210> 4227

<211> 1199

<212> DNA

<213> Homo sapiens

<400> 4227

```

nnaagcttat ggccagtgtt aatttggtat ttcttaaata actttccctt tcatttttaa
60
attataaatt taacttctaa catgttttat ggtaaaatt gtactttttt ccttttagcga
120
cattcaaatg catcacaatc actttgtgaa attgttcgcc tgagcagaga ccagatgtta
180
caaattcaga acagtacaga gcccgacccc ctgcttgcca ctctagaaaa gcaagaaatt
240
atagagcagc ttctatcaaa tattttccac aaggagaaaa atgagtcagc catagtcagt
300
gcaatccaga tattgctgac ttacttgag acacgacgac caacatttga aggccatata
360
gagatctgcc caccaggcat gagccattca gcttggttcag taaacaagag tgttctagaa
420
gccatcagag gaagacttgg atcttttcat gaactcctgc tggagccacc caagaaaagt
480
gtgatgaaga ccacatgggg tgtgctggat cctcctgtgg ggaatacccg gttgaatgtc
540
attaggttga tatccagcct gttcaaacc aataccagca gtataaatgg ggaccttatg
600
gagctgaata gcattggagt catattgaac atgttcttca agtatacatg gaataacttt
660
ttgcatacac aagtggaaat ttgtattgca ctgattcttg caagtccttt tgaaaacaca
720
gaaaatgccca caattaccga tcaagactcc actggtgata atttgttatt aaaacatctt
780
ttccaaaaat gtcaattaat agaacgaata cttgaagcct gggaaatgaa tgagaagaaa
840
caggctgagg gaggaagacg gcatgggttac atgggacacc taacgaggat agctaactgt
900
atcgtgcaca gcactgacaa gggccccaac agtgcattag tgcagcagct tatcaaaggt
960
aagttatttg tgaaatttga attacatttt tgttgggttg caggaaggat ttaaggggtca
1020
agtagaaatg catgtagcat ttttaatagt gatttgtggg acttctttat atttggcaaa
1080

```

ttatgtattt gaatgaggtt cttgagaatg tgtttgaaca gggttgtttt ttgggttgta
 1140
 ttttatgttc atgtagttac agaccattcc ataagcattg gcaggcttgg ctggattca
 1199

<210> 4228

<211> 298

<212> PRT

<213> Homo sapiens

<400> 4228

Arg	His	Ser	Asn	Ala	Ser	Gln	Ser	Leu	Cys	Glu	Ile	Val	Arg	Leu	Ser
1			5					10						15	
Arg	Asp	Gln	Met	Leu	Gln	Ile	Gln	Asn	Ser	Thr	Glu	Pro	Asp	Pro	Leu
	20						25						30		
Leu	Ala	Thr	Leu	Glu	Lys	Gln	Glu	Ile	Ile	Glu	Gln	Leu	Leu	Ser	Asn
	35					40						45			
Ile	Phe	His	Lys	Glu	Lys	Asn	Glu	Ser	Ala	Ile	Val	Ser	Ala	Ile	Gln
	50					55					60				
Ile	Leu	Leu	Thr	Leu	Leu	Glu	Thr	Arg	Arg	Pro	Thr	Phe	Glu	Gly	His
65					70					75					80
Ile	Glu	Ile	Cys	Pro	Pro	Gly	Met	Ser	His	Ser	Ala	Cys	Ser	Val	Asn
			85					90						95	
Lys	Ser	Val	Leu	Glu	Ala	Ile	Arg	Gly	Arg	Leu	Gly	Ser	Phe	His	Glu
			100					105					110		
Leu	Leu	Leu	Glu	Pro	Pro	Lys	Lys	Ser	Val	Met	Lys	Thr	Thr	Trp	Gly
	115					120							125		
Val	Leu	Asp	Pro	Pro	Val	Gly	Asn	Thr	Arg	Leu	Asn	Val	Ile	Arg	Leu
	130					135					140				
Ile	Ser	Ser	Leu	Leu	Gln	Thr	Asn	Thr	Ser	Ser	Ile	Asn	Gly	Asp	Leu
145					150					155					160
Met	Glu	Leu	Asn	Ser	Ile	Gly	Val	Ile	Leu	Asn	Met	Phe	Phe	Lys	Tyr
			165					170						175	
Thr	Trp	Asn	Asn	Phe	Leu	His	Thr	Gln	Val	Glu	Ile	Cys	Ile	Ala	Leu
		180						185					190		
Ile	Leu	Ala	Ser	Pro	Phe	Glu	Asn	Thr	Glu	Asn	Ala	Thr	Ile	Thr	Asp
	195					200						205			
Gln	Asp	Ser	Thr	Gly	Asp	Asn	Leu	Leu	Leu	Lys	His	Leu	Phe	Gln	Lys
	210					215					220				
Cys	Gln	Leu	Ile	Glu	Arg	Ile	Leu	Glu	Ala	Trp	Glu	Met	Asn	Glu	Lys
225					230					235				240	
Lys	Gln	Ala	Glu	Gly	Gly	Arg	Arg	His	Gly	Tyr	Met	Gly	His	Leu	Thr
			245					250						255	
Arg	Ile	Ala	Asn	Cys	Ile	Val	His	Ser	Thr	Asp	Lys	Gly	Pro	Asn	Ser
		260						265					270		
Ala	Leu	Val	Gln	Gln	Leu	Ile	Lys	Gly	Lys	Leu	Phe	Val	Lys	Phe	Glu
	275					280						285			
Leu	His	Phe	Cys	Trp	Val	Ala	Gly	Arg	Ile						
	290					295									

<210> 4229

<211> 1612

<212> DNA

<213> Homo sapiens

<400> 4229

ncgggggtct ccatcctgga ccaggacctg gactacctgt ccgaaggcct cgaaggccga
60
tcccaaagcc ccgtggccct gctctttgat gcccttctac gcccagacac agactttggg
120
ggaaacatga agtcggtcct cacctggaag caccggaagg agcacgccat cccccacgtg
180
gttctggggcc ggaacctccc cgggggagcc tggcactcca tcgaaggctc catggtgatc
240
ctgagccaag gccagtggat ggggctcccc gacctggagg tcaaggactg gatgcagaag
300
aagcgaagag gtcttcgcaa cagccgggccc actgccgggg acatcgccca ctactacagg
360
gactacgtgg tcaagaaggg tctggggcat aactttgtgt ccggtgctgt agtcacagcc
420
gtggagtggg ggacccccga tcccagcagc tgtggggccc aggactccag cccctcttc
480
caggtgagcg gcttcctgac caggaaccag gccagcagc ccttctcgct gtgggcccgc
540
aacgtggtcc tcgccacagg cacgttcgac agcccggccc ggctgggcat ccccggggag
600
gccctgccct tcatccacca tgagctgtct gccctggagg ccgccacaag ggtgggtgcg
660
gtgaccccg cctcagaccc tgcctcatc attggcgcg ggctgtcagc ggccgacgcc
720
gtcctctacg cccgccacta caacatcccc gtgatccatg ccttcggccg ggccgtggac
780
gacctggcc tgggtgtcaa ccagctgccc aagatgctgt accccgagta ccacaagggt
840
caccagatga tgcgggagca gtccatcctg tcgccagcc cctatgaggg ttaccgcagc
900
ctccccaggc accagctgct gtgcttcaag gaagactgcc aggccgtgtt ccaggacctc
960
gaggggtgctg agaagggtgt tgggggtctc ctggtgctgg tcctcatcgg ctccccccc
1020
gacctctcct tcctgcctgg ggcaggggct gactttgcag tggatcctga ccagccgctg
1080
agcgccaaga ggaaccccat tgacgtggac cccttcacct accagagcac ccgccaggag
1140
ggcctgtacg ccatggggcc gctggccggg gacaacttcg tgaggtttgt gcaggggggc
1200
gccttggctg tggccagctc cctgctaagg aaggagacca ggaagccacc ctaacactcg
1260
gccagacccg ctggctccca ggccctgaga ggacagagat gaccacatcc ctgctggatg
1320
caggacctcg ccaaagatgc cccggggagg ggtgtcagcc cacgttgctg gcctttggg
1380
tcaagaggag tagggatccc aggtgcctt ggacttagac cagtgtctga ggttggaact
1440
agaccagtgt gtgaggtggt aacagcggcc gcagcagggg gttggcctag acctgggatt
1500
tgtggggaaa gctgctggtg tgaccagctg agcaccagc caggagacct gcagccctgc
1560

gccttccaga agcaggtccc aaataaagcc agtgcccacc tgaaaaaaaa aa
1612

<210> 4230

<211> 417

<212> PRT

<213> Homo sapiens

<400> 4230

Xaa	Gly	Val	Ser	Ile	Leu	Asp	Gln	Asp	Leu	Asp	Tyr	Leu	Ser	Glu	Gly
1				5					10					15	
Leu	Glu	Gly	Arg	Ser	Gln	Ser	Pro	Val	Ala	Leu	Leu	Phe	Asp	Ala	Leu
			20						25					30	
Leu	Arg	Pro	Asp	Thr	Asp	Phe	Gly	Gly	Asn	Met	Lys	Ser	Val	Leu	Thr
			35				40						45		
Trp	Lys	His	Arg	Lys	Glu	His	Ala	Ile	Pro	His	Val	Val	Leu	Gly	Arg
			50				55					60			
Asn	Leu	Pro	Gly	Gly	Ala	Trp	His	Ser	Ile	Glu	Gly	Ser	Met	Val	Ile
65					70					75				80	
Leu	Ser	Gln	Gly	Gln	Trp	Met	Gly	Leu	Pro	Asp	Leu	Glu	Val	Lys	Asp
				85					90					95	
Trp	Met	Gln	Lys	Lys	Arg	Arg	Gly	Leu	Arg	Asn	Ser	Arg	Ala	Thr	Ala
			100					105						110	
Gly	Asp	Ile	Ala	His	Tyr	Tyr	Arg	Asp	Tyr	Val	Val	Lys	Lys	Gly	Leu
			115				120						125		
Gly	His	Asn	Phe	Val	Ser	Gly	Ala	Val	Val	Thr	Ala	Val	Glu	Trp	Gly
			130			135				140					
Thr	Pro	Asp	Pro	Ser	Ser	Cys	Gly	Ala	Gln	Asp	Ser	Ser	Pro	Leu	Phe
145					150					155				160	
Gln	Val	Ser	Gly	Phe	Leu	Thr	Arg	Asn	Gln	Ala	Gln	Gln	Pro	Phe	Ser
				165					170					175	
Leu	Trp	Ala	Arg	Asn	Val	Val	Leu	Ala	Thr	Gly	Thr	Phe	Asp	Ser	Pro
			180					185					190		
Ala	Arg	Leu	Gly	Ile	Pro	Gly	Glu	Ala	Leu	Pro	Phe	Ile	His	His	Glu
			195				200					205			
Leu	Ser	Ala	Leu	Glu	Ala	Ala	Thr	Arg	Val	Gly	Ala	Val	Thr	Pro	Ala
			210			215					220				
Ser	Asp	Pro	Val	Leu	Ile	Ile	Gly	Ala	Gly	Leu	Ser	Ala	Ala	Asp	Ala
225					230					235				240	
Val	Leu	Tyr	Ala	Arg	His	Tyr	Asn	Ile	Pro	Val	Ile	His	Ala	Phe	Arg
				245					250					255	
Arg	Ala	Val	Asp	Asp	Pro	Gly	Leu	Val	Phe	Asn	Gln	Leu	Pro	Lys	Met
			260					265						270	
Leu	Tyr	Pro	Glu	Tyr	His	Lys	Val	His	Gln	Met	Met	Arg	Glu	Gln	Ser
			275				280						285		
Ile	Leu	Ser	Pro	Ser	Pro	Tyr	Glu	Gly	Tyr	Arg	Ser	Leu	Pro	Arg	His
			290			295					300				
Gln	Leu	Leu	Cys	Phe	Lys	Glu	Asp	Cys	Gln	Ala	Val	Phe	Gln	Asp	Leu
305					310					315				320	
Glu	Gly	Val	Glu	Lys	Val	Phe	Gly	Val	Ser	Leu	Val	Leu	Val	Leu	Ile
				325					330					335	
Gly	Ser	His	Pro	Asp	Leu	Ser	Phe	Leu	Pro	Gly	Ala	Gly	Ala	Asp	Phe
			340					345					350		
Ala	Val	Asp	Pro	Asp	Gln	Pro	Leu	Ser	Ala	Lys	Arg	Asn	Pro	Ile	Asp

aaatccatgc cagtgttggg ttctgtatcc agtgtaacaa aaacagcctt gaacaagaaa
 1200
 actctggagg cagaattcaa cagcccgtcc cccccaacac ctgagccagg tgaagggccc
 1260
 cgtaaattgg aaggatgcac aagttccaag gttacgtttc agtaagtaac gatgctcttt
 1320
 actaagtggg gtatagaaga atctgtaatg actaacttgt gtgtttcttt gatttggttc
 1380
 ctttagagag attttgattg gctcgcgggt aaattctctt cttcttttca tttgatgggc
 1440
 cagctttttc attctaggct cctagataag agatctaatt aagatccaaa gcaagtacca
 1500
 tgtacaaaga gaattacttc ccctaaactg gtttggtaat caggttctta tacacaaata
 1560
 attgatctgg atgatacaga ctctgcag
 1588

<210> 4232

<211> 434

<212> PRT

<213> Homo sapiens

<400> 4232

Xaa	Thr	Thr	Asp	Thr	Asp	Gly	Ala	Ala	Glu	Thr	Cys	Val	Ser	Val	Gln
1				5					10					15	
Cys	Gln	Lys	Gln	Ile	Lys	Glu	Leu	Arg	Asp	Gln	Ile	Val	Ser	Val	Gln
			20					25					30		
Glu	Glu	Lys	Lys	Ile	Leu	Ala	Ile	Glu	Leu	Glu	Asn	Leu	Lys	Ser	Lys
		35					40					45			
Leu	Val	Glu	Val	Ile	Glu	Glu	Val	Asn	Lys	Val	Lys	Gln	Glu	Lys	Thr
		50				55					60				
Val	Leu	Asn	Ser	Glu	Val	Leu	Glu	Gln	Arg	Lys	Val	Leu	Glu	Lys	Cys
65				70					75					80	
Asn	Arg	Val	Ser	Met	Leu	Ala	Val	Glu	Tyr	Glu	Glu	Met	Gln	Val	
			85					90				95			
Asn	Leu	Glu	Leu	Glu	Lys	Asp	Leu	Arg	Lys	Lys	Ala	Glu	Ser	Phe	Ala
		100					105					110			
Gln	Glu	Met	Phe	Leu	Glu	Pro	Asn	Gln	Gly	Lys	Lys	Thr	Lys	Pro	Pro
	115					120						125			
Phe	Gly	Arg	Gln	Ser	Ser	Ile	Leu	Asp	Gln	Gln	Leu	Ala	Leu	Asp	Glu
130						135					140				
Asn	Ala	Lys	Leu	Thr	Gln	Gln	Leu	Glu	Glu	Glu	Arg	Ile	Gln	His	Gln
145				150					155					160	
Gln	Lys	Val	Lys	Glu	Leu	Glu	Glu	Gln	Leu	Glu	Asn	Glu	Thr	Leu	His
			165					170					175		
Lys	Glu	Ile	His	Asn	Leu	Lys	Gln	Gln	Leu	Glu	Leu	Leu	Glu	Glu	Asp
		180					185					190			
Lys	Lys	Glu	Leu	Glu	Leu	Lys	Tyr	Gln	Asn	Ser	Glu	Glu	Lys	Ala	Arg
	195					200					205				
Asn	Leu	Lys	His	Ser	Val	Asp	Glu	Leu	Gln	Lys	Arg	Val	Asn	Gln	Ser
210					215					220					
Glu	Asn	Ser	Val	Pro	Pro	Pro	Pro	Pro	Pro	Pro	Pro	Leu	Pro	Pro	
225				230					235					240	
Pro	Pro	Pro	Asn	Pro	Ile	Arg	Ser	Leu	Met	Ser	Met	Ile	Arg	Lys	Arg

gatctttctg atgttgcaat gaaggtaaaa ttacagaaa agtttcgtaa aaagggtggat
720
gctgcaaagc tgagagttca ggtcttacag aagaagcaac aagatagtaa gaaactggca
780
tcactgtcaa tccaaaatga gaaacgtgct aatgaactag agcagagtgt agatcacatg
840
aaatatcaaa agatacagct acaaagaaaa ctacgagaag aaaatgaaaa aaggaagcaa
900
ctggatgcag taattaagcg ggaccagcaa aaaatcaaag taatacaatt aaaaacagga
960
caggaagaag gtctaaaacc gaaagctgag gaccttgatg catgtaactt gaaaaggaga
1020
aaaggttcgt ttggaagtat agaccatctc cagaaattgg atgagcaaaa gaaatgggta
1080
gatgaagaag tagagaaagt tctgaaccaa cgccaagaat tagaggagct ggaagcagac
1140
ttaaagaaac gggaggccat agtttctaag aaggaggctc tggtacagga gaagagtcac
1200
ctggaaaata agaaattgag atctagtcag gccttaaca cagatagttt gaaaatatca
1260
actgcctga acttactgga acaagagttg tctgaaaaga atgtgcagct ccagaccagt
1320
acagctgagg agaaaacaaa gatttcagaa caagttgaag tcctccagaa agaaaaggat
1380
cagctccaga aacgcagaca cgatgtggat gaaaaactta aaaatggtag agtggtatca
1440
cctgaagaag aacatgttct tttccaactt' gaagaagggga tagaagcttt ggaagctgca
1500
attgaatata ggaatgaaag tatccagaat cgccagaagt cacttagagc atcattccat
1560
aacctctctc gtggtgaagc aaatgtcttg gaaaagctag cttgcctgag tcctgttgag
1620
attagaacta ttcttttcag atatttcaat aagggtggtga atttgcgaga agctgaacgg
1680
aaacaacagt tatataatga agaaatgaaa atgaaagttc tggaacggga taatatggtt
1740
cgtgaattag aatctgcact ggaccatcta aaattgcagt gtgaccggag actgaccctc
1800
cagcaaaagg aacacgaaca aaagatgcag ttgctattac atcatttcaa agaacaagat
1860
ggagaaggca ttatggaaac tttcaaaaaca tatgaagata aaatccagca gttggaaaaa
1920
gatctttatt tctataagaa aaccagccgg gatcataaga agaaacttaa ggaactggta
1980
ggggaagcaa ttcggcggca actagcatca tcagagtatc aagaggctgg agatggagtc
2040
ctgaagccag aaggaggagg catgctttca gaagaattaa aatgggcatc cagacctgaa
2100
agtatgaaat taagtggaag agaaagagaa atggacagtt cagcaagcag cttagaaca
2160
cagccaaatc ctcaaaagct ctgggaagat atcccagaat tacctccaat tcatagttct
2220
ttagcacccc ccagtgggca tatgttaggt aatgagaata aaacagaaac agatgataat
2280

cagtttacaa aatctcacag tcgactgtca tcccaaattc aggttggtggg aaatgtggga
 2340
 cgacttcacg gtgtcacacc tgtaaaactg tgtcgaaaag aattacgtca aatttccgcc
 2400
 ttggaactat cattgcgacg ttccagtctt ggagttggca ttggatcaat ggctgctgat
 2460
 tccatcgaag tatctaggaa accaaggagc ttaaaaactt agacattgaa taatagaact
 2520
 ttttagtagat atgtaaaaag attccttttt ctaacctgtt aaaaactaaa gctcaagttc
 2580
 actacctctt tcctcagaat aaaggaagaa ggggaggaag gaatccctaa ttcttttata
 2640
 tgctatagat gtgtacatct tctatatata tttggggagt tttagtttat attcccatag
 2700
 taatcaaaaca tgttttccaa tacttgataa catttaaata ttataaata cgcttaaatg
 2760
 tttttccagg catatttgaa gattaaaact agtaatagac taaaaaaaaa aaaaaaaaaa
 2820
 aaaaaag
 2827

<210> 4234
 <211> 833
 <212> PRT
 <213> Homo sapiens

<400> 4234
 Gly Ser Leu Lys Gly Asp His Ile Leu Tyr His Leu Ile Leu Ile Trp
 1 5 10 15
 Gly Ile Ile Phe Ile Ser His Gln Asp Lys Ile Pro Gly Gly Gly Ile
 20 25 30
 Thr Cys Lys Val His Thr Ser Pro Pro Met Tyr Ser Leu Asp Arg Ile
 35 40 45
 Phe Ala Gly Phe Arg Thr Arg Ser Gln Met Leu Leu Gly His Ile Glu
 50 55 60
 Glu Gln Asp Lys Val Leu His Cys Gln Phe Ser Asp Asn Ser Asp Asp
 65 70 75 80
 Glu Glu Ser Glu Gly Gln Glu Lys Ser Gly Thr Arg Cys Arg Ser Arg
 85 90 95
 Ser Trp Ile Gln Lys Pro Asp Ser Val Cys Ser Leu Val Glu Leu Ser
 100 105 110
 Asp Thr Gln Asp Glu Thr Gln Lys Ser Asp Leu Glu Asn Glu Asp Leu
 115 120 125
 Lys Ile Asp Cys Leu Gln Glu Ser Gln Glu Leu Asn Leu Gln Lys Leu
 130 135 140
 Lys Asn Ser Glu Arg Ile Leu Thr Glu Ala Lys Gln Lys Met Arg Glu
 145 150 155 160
 Leu Thr Val Asn Ile Lys Met Lys Glu Asp Leu Ile Lys Glu Leu Ile
 165 170 175
 Lys Thr Gly Asn Asp Ala Lys Ser Val Ser Lys Gln Tyr Thr Leu Lys
 180 185 190
 Val Thr Lys Leu Glu His Asp Ala Glu Gln Ala Lys Val Glu Leu Thr
 195 200 205
 Glu Thr Gln Lys Gln Leu Gln Glu Leu Glu Asn Lys Asp Leu Ser Asp

210	215	220
Val Ala Met Lys Val Lys Leu Gln Lys Glu Phe Arg Lys Lys Val Asp		
225	230	235
Ala Ala Lys Leu Arg Val Gln Val Leu Gln Lys Lys Gln Gln Asp Ser		240
	245	250
Lys Lys Leu Ala Ser Leu Ser Ile Gln Asn Glu Lys Arg Ala Asn Glu		255
	260	265
Leu Glu Gln Ser Val Asp His Met Lys Tyr Gln Lys Ile Gln Leu Gln		270
	275	280
Arg Lys Leu Arg Glu Glu Asn Glu Lys Arg Lys Gln Leu Asp Ala Val		285
	290	295
Ile Lys Arg Asp Gln Gln Lys Ile Lys Val Ile Gln Leu Lys Thr Gly		300
305	310	315
Gln Glu Glu Gly Leu Lys Pro Lys Ala Glu Asp Leu Asp Ala Cys Asn		320
	325	330
Leu Lys Arg Arg Lys Gly Ser Phe Gly Ser Ile Asp His Leu Gln Lys		335
	340	345
Leu Asp Glu Gln Lys Lys Trp Leu Asp Glu Glu Val Glu Lys Val Leu		350
	355	360
Asn Gln Arg Gln Glu Leu Glu Glu Leu Glu Ala Asp Leu Lys Lys Arg		365
	370	375
Glu Ala Ile Val Ser Lys Lys Glu Ala Leu Leu Gln Glu Lys Ser His		380
385	390	395
Leu Glu Asn Lys Lys Leu Arg Ser Ser Gln Ala Leu Asn Thr Asp Ser		400
	405	410
Leu Lys Ile Ser Thr Arg Leu Asn Leu Leu Glu Gln Glu Leu Ser Glu		415
	420	425
Lys Asn Val Gln Leu Gln Thr Ser Thr Ala Glu Glu Lys Thr Lys Ile		430
	435	440
Ser Glu Gln Val Glu Val Leu Gln Lys Glu Lys Asp Gln Leu Gln Lys		445
	450	455
Arg Arg His Asp Val Asp Glu Lys Leu Lys Asn Gly Arg Val Leu Ser		460
465	470	475
Pro Glu Glu Glu His Val Leu Phe Gln Leu Glu Glu Gly Ile Glu Ala		480
	485	490
Leu Glu Ala Ala Ile Glu Tyr Arg Asn Glu Ser Ile Gln Asn Arg Gln		495
	500	505
Lys Ser Leu Arg Ala Ser Phe His Asn Leu Ser Arg Gly Glu Ala Asn		510
	515	520
Val Leu Glu Lys Leu Ala Cys Leu Ser Pro Val Glu Ile Arg Thr Ile		525
	530	535
Leu Phe Arg Tyr Phe Asn Lys Val Val Asn Leu Arg Glu Ala Glu Arg		540
545	550	555
Lys Gln Gln Leu Tyr Asn Glu Glu Met Lys Met Lys Val Leu Glu Arg		560
	565	570
Asp Asn Met Val Arg Glu Leu Glu Ser Ala Leu Asp His Leu Lys Leu		575
	580	585
Gln Cys Asp Arg Arg Leu Thr Leu Gln Gln Lys Glu His Glu Gln Lys		590
	595	600
Met Gln Leu Leu Leu His His Phe Lys Glu Gln Asp Gly Glu Gly Ile		605
	610	615
Met Glu Thr Phe Lys Thr Tyr Glu Asp Lys Ile Gln Gln Leu Glu Lys		620
625	630	635
Asp Leu Tyr Phe Tyr Lys Lys Thr Ser Arg Asp His Lys Lys Lys Leu		640

645 650 655
 Lys Glu Leu Val Gly Glu Ala Ile Arg Arg Gln Leu Ala Ser Ser Glu
 660 665 670
 Tyr Gln Glu Ala Gly Asp Gly Val Leu Lys Pro Glu Gly Gly Gly Met
 675 680 685
 Leu Ser Glu Glu Leu Lys Trp Ala Ser Arg Pro Glu Ser Met Lys Leu
 690 695 700
 Ser Gly Arg Glu Arg Glu Met Asp Ser Ser Ala Ser Ser Leu Arg Thr
 705 710 715 720
 Gln Pro Asn Pro Gln Lys Leu Trp Glu Asp Ile Pro Glu Leu Pro Pro
 725 730 735
 Ile His Ser Ser Leu Ala Pro Pro Ser Gly His Met Leu Gly Asn Glu
 740 745 750
 Asn Lys Thr Glu Thr Asp Asp Asn Gln Phe Thr Lys Ser His Ser Arg
 755 760 765
 Leu Ser Ser Gln Ile Gln Val Val Gly Asn Val Gly Arg Leu His Gly
 770 775 780
 Val Thr Pro Val Lys Leu Cys Arg Lys Glu Leu Arg Gln Ile Ser Ala
 785 790 795 800
 Leu Glu Leu Ser Leu Arg Arg Ser Ser Leu Gly Val Gly Ile Gly Ser
 805 810 815
 Met Ala Ala Asp Ser Ile Glu Val Ser Arg Lys Pro Arg Asp Leu Lys
 820 825 830
 Thr

<210> 4235
 <211> 971
 <212> DNA
 <213> Homo sapiens

<400> 4235
 ngacagcgag cgggggcgac ttgccaataa agttaggctc caacagctgc tgttgccacc
 60
 accactagtt caagcaccat gcagtttacc tcaatatcaa attctttgac ctccactgct
 120
 gctattgggc tctcatttac aacttcaacg actaccaccg ccactttcac caccaacact
 180
 actaccacaa tcaccagtgg ctttactgtg aaccaaacc aactgttattc aagaggggtt
 240
 gaaaaccttg taccttatac ttcaactgtt agtgtagtag caactcctgt gatgacatat
 300
 ggtcatctgg agggctctat aaatgagtgg aaccttgagc tggaagatca agagaagtac
 360
 tttcttctcc aggcactca ggtcaatgct tgggaccata cattgattga gaatgggtgag
 420
 atgattcgta ttttacctg agaagtgaac aaagtgaac tggatcagaa aagattggaa
 480
 caagaattgg attttacct gtcacagcag caggaactag aatttctgtt gacttattta
 540
 gaggagtcta cgcgtgacca gagggtgactt cattatctgc aggatgcaga tgaggagcat
 600
 gtggagatct ccaccagatc tgcagaattc tgaatgccca tatggactcc ctgcagtggg
 660

ttgatcggaa ttcaggcatg ctgcgaagga aggtagaagt ggtaacacgg gttttcgagg
 720
 attatcgta cgaggagcat gcacacaatg tcaacactgc tttttagtga atgaccatat
 780
 cttcagcatg tcgtttctgg attattacct acaaattctg atgttaaata gagtagtatt
 840
 tatacttaat atttcattct gatcataatg aattgtgcat cctttttttc atttaagtat
 900
 tgtactgttg agaattatac cttagtgttg tttttagtat tagaaaaatca aaattatact
 960
 agcccctttg t
 971

<210> 4236

<211> 198

<212> PRT

<213> Homo sapiens

<400> 4236

Ala	Pro	Thr	Ala	Ala	Val	Ala	Thr	Thr	Thr	Ser	Ser	Ser	Thr	Met	Gln
1				5					10					15	
Phe	Thr	Ser	Ile	Ser	Asn	Ser	Leu	Thr	Ser	Thr	Ala	Ala	Ile	Gly	Leu
			20					25					30		
Ser	Phe	Thr	Thr	Ser	Thr	Thr	Thr	Thr	Ala	Thr	Phe	Thr	Thr	Asn	Thr
		35					40					45			
Thr	Thr	Thr	Ile	Thr	Ser	Gly	Phe	Thr	Val	Asn	Gln	Asn	Gln	Leu	Leu
	50					55					60				
Ser	Arg	Gly	Phe	Glu	Asn	Leu	Val	Pro	Tyr	Thr	Ser	Thr	Val	Ser	Val
65					70				75					80	
Val	Ala	Thr	Pro	Val	Met	Thr	Tyr	Gly	His	Leu	Glu	Gly	Leu	Ile	Asn
				85					90					95	
Glu	Trp	Asn	Leu	Glu	Leu	Glu	Asp	Gln	Glu	Lys	Tyr	Phe	Leu	Leu	Gln
		100						105					110		
Ala	Thr	Gln	Val	Asn	Ala	Trp	Asp	His	Thr	Leu	Ile	Glu	Asn	Gly	Glu
	115						120						125		
Met	Ile	Arg	Ile	Leu	His	Gly	Glu	Val	Asn	Lys	Val	Lys	Leu	Asp	Gln
	130					135					140				
Lys	Arg	Leu	Glu	Gln	Glu	Leu	Asp	Phe	Ile	Leu	Ser	Gln	Gln	Gln	Glu
145					150					155				160	
Leu	Glu	Phe	Leu	Leu	Thr	Tyr	Leu	Glu	Glu	Ser	Thr	Arg	Asp	Gln	Ser
			165					170						175	
Gly	Leu	His	Tyr	Leu	Gln	Asp	Ala	Asp	Glu	Glu	His	Val	Glu	Ile	Ser
		180						185					190		
Thr	Arg	Ser	Ala	Glu	Phe										
															195

<210> 4237

<211> 560

<212> DNA

<213> Homo sapiens

<400> 4237

cccaggtggc aggtgtgtgg tggtcctgtg ccatgtgtgc gacacgcctc acgtgtgtgc
 60

tgatggtggc cacaccagcc ctgatgggag tgggcaccct gatgggctca ggcctccgaa
 120
 aattgtctcg ccagtgtcag gagcaggtac cggcattcct ggccatcctc ttcaccctcc
 180
 ccacaccgtt tctctttcca ctccccgaa ctctccctg tccccatcct ggactccttg
 240
 tcctgttttt tggactcctt gtcctgtttc ctggactcct tgcagatcgc cagggcaatg
 300
 ggcgtagcag acgaggccct gggcaatgtg cggactgtgc gtgccttcgc catggagcaa
 360
 cgggaagagg agcgtatagg ggcagagctg gaagcctgcc gctgccgagc agaggagctg
 420
 ggccgcggca tcgccttggt ccaagggctt tccaacatcg cttcaactg tgagttagcc
 480
 atttgggggc tggaggggag cttgtgggct ggggaggagc tgggagcagc caaggcaggc
 540
 aaggccctcc cttcacgctg
 560

<210> 4238

<211> 124

<212> PRT

<213> Homo sapiens

<400> 4238

Trp	Ala	Gln	Ala	Ser	Glu	Asn	Cys	Leu	Ala	Ser	Val	Arg	Ser	Arg	Tyr
1				5				10					15		
Arg	His	Ser	Trp	Pro	Ser	Ser	Ser	Pro	Ser	Pro	His	Arg	Phe	Ser	Phe
			20					25					30		
His	Ser	Pro	Glu	Leu	Leu	Pro	Val	Pro	Ile	Leu	Asp	Ser	Leu	Ser	Cys
			35				40					45			
Phe	Leu	Asp	Ser	Leu	Ser	Cys	Phe	Leu	Asp	Ser	Leu	Gln	Ile	Ala	Arg
			50			55					60				
Ala	Met	Gly	Val	Ala	Asp	Glu	Ala	Leu	Gly	Asn	Val	Arg	Thr	Val	Arg
					70					75				80	
Ala	Phe	Ala	Met	Glu	Gln	Arg	Glu	Glu	Glu	Arg	Tyr	Gly	Ala	Glu	Leu
				85				90						95	
Glu	Ala	Cys	Arg	Cys	Arg	Ala	Glu	Glu	Leu	Gly	Arg	Gly	Ile	Ala	Leu
			100				105						110		
Phe	Gln	Gly	Leu	Ser	Asn	Ile	Ala	Phe	Asn	Cys	Glu				
			115				120								

<210> 4239

<211> 3127

<212> DNA

<213> Homo sapiens

<400> 4239

nngaaagggg aaggggagtt gggagaggca cctcaacttt gatgtcccga gccttgagtg
 60
 gccactcgca agctggccaa gggcttcaca caatttgcca agatgacaga ggggaccaag
 120
 aagaccagca aaaagttcaa gttcttcaag ttcaagggtt ttgggagttc ctccaacctc
 180

cctcggtcct tcaactctgag acgatcctca gcttccatca gtaggcagtc ccatttgag
240
cctgacacct ttgaagccac gcaggatgac atggtgacgg tgcccaagag tccccagcc
300
tatgcccgtt ccagtgcacat gtacagccac atgggcacca tgccctgccc cagcatcaag
360
aaagcacaga actcacaggc tgcccggcag gcccaggagg cgggtcccaa gcccacttg
420
gtacccggag gtgtaccga cccccaggc ttggaggcag ccaaagaggt gatggtgaag
480
gccactggcc ctctagagga cccccagca atggaacca acccttcagc agtggaggta
540
gaccccatca gaaagcctga ggtccccaca ggagacgtag aagaggagag acctcccagg
600
gacgtgcact cagaaagggc tgctggagag ccagaggctg gcagcgacta tgtgaagttc
660
tccaaggaga agtacatcct ggactcatcg ccagagaaac tccacaagga attggaggag
720
gagctcaaac tcagcagcac ggatctccgc agccatgcct ggtaccatgg ccgcatcccc
780
cgagaggtct cggagacctt ggtacaacgc aacggcgact tcctcatccg ggactcactc
840
accagcctgg ggcactatgt gctcacgtgc cgctggcgca accaggcctt gcacttcaag
900
atcaacaagg tgggtgtgaa ggcaggcgag agctacacac acatccagta cctgtttgag
960
caggagagct ttgaccagct gcccgccctc gtgcgctatc atgtgggcag ccgcaaggct
1020
gtgtcagagc agagtgggtgc catcatctac tgcccgttga accgcacctt cccactgcgc
1080
tacctcgaag ccagctatgg cctgggacag gggagtagca agcctgctag ccccgtcagc
1140
ccctcaggcc ccaagggcag ccacatgaag cggcgagcgc tcaccatgac cgatgggctc
1200
actgctgaca aggtcacccg cagcgatggc tgccccacca gtacgtcgct gccccgccct
1260
cgggactcca tccgcagctg tgccctcagc atggaccaga tcccagacct gcactacccc
1320
atgtcgccca tctccgagag ccctagctcc cctgcctaca gcactgtaac ccgtgtccat
1380
gccgcccctg cagccccctc tgccacagca ttgctgcct cccctgtcgc ccgtgttcc
1440
agttagcccc agctgtgtcc cggaagtgcc ccaaagaccc atggggagtc agacaagggc
1500
ccccacacca gcccctccca cacccttggc aaggcctccc cgtcaccatc actcagcagc
1560
tacagtgacc cggactctgg ccactactgc cagctccagc ctcccgtgcg tggcagccga
1620
gagtgggcag cgactgagac ctccagccag caggccagga gctatgggga gaggctaaag
1680
gaactgtcag aaaatggggc ccctgaaggg gactggggca agaccttcac agtccccatc
1740
gtggaagtca cttcttcctt caaccgggcc accttcagc cactactgat cccagggat
1800

aaccggccac tggaggtggg ccttctgcgc aagggtcaagg agctgctggc agaagtggat
1860
gcccggacgc tggcccgga tgccaccaag gtggactgcc tgggtgctag gatactgggc
1920
gttaccaagg agatgcagac cctaattgga gtccgctggg gcatggaact gctcaccctc
1980
cccatggcc ggcagctacg cctagacctg ctggaaagg tccacaccat gtccatcatg
2040
ctggccgtgg acatcctggg ctgcaccggc tctgcggagg agcgggcagc gctgctgcac
2100
aagaccattc agctggcggc cgagctacgg gggactatgg gcaacatgtt cagcttcgcg
2160
gcggtcatgg gtgccctgga catggctcag atttctcggc tggagcagac atgggtgacc
2220
ctgcggcagc gacacacaga ggggtgccatc ctgtacgaga agaagctcaa gccttttctc
2280
aagagcctca acgagggcaa agaaggcccg ccgctgagca acaccacgtt tcctcatgtg
2340
ctgcccctca tcaccctgct ggagtgtgac tcggcccccac cagagggccc tgagccctgg
2400
ggcagcacgg agcacggcgt ggaggtggtg ctggctcacc tggaggccgc ccgcacagtg
2460
gcacaccacg gaggcctgta ccacaccaat gctgaagtca agctgcaggg gttccaggcc
2520
cggccggagc tcctggaggt gttcagcacg gagttccaga tgcgccttct ctggggcagt
2580
caggggtgcc gcagcagcca ggcccggcgc tatgagaagt tcgacaaggc cctcactgcc
2640
ctgtcccaca agctggaacc tgctgtccgc tccagcagc tgtgaccca gggacatttc
2700
ccctctgcag ctgcggacag cgtcaggggc agaggggcac acaactttcc ccagagcacc
2760
ccaaggacac tgtgatcaac ccgagaatgt tctgggttca actcaagcat ctcccttgca
2820
cctccagggt cctgcgtgga ctctgggttc catccacact gctacatgct caccaggtct
2880
ccattgagga agaacaggaa cgccgggtcc cccaccagct tttgtgctc ccttctctgc
2940
tggggttccc tgttttcgag ccatgggagg caggctgctc acgcctctc actctctgct
3000
tgtccctcac caacaccaag gcctccatct cactgtaaat aagtctctgt tctgtaata
3060
gatgtacaga agccatgtta tttctttcat ataataaact tttatgactc tttaaaaaaa
3120
aaaaaaa
3127

<210> 4240

<211> 860

<212> PRT

<213> Homo sapiens

<400> 4240

Met Thr Glu Gly Thr Lys Lys Thr Ser Lys Lys Phe Lys Phe Phe Lys

```

1           5           10           15
Phe Lys Gly Phe Gly Ser Leu Ser Asn Leu Pro Arg Ser Phe Thr Leu
20           25           30
Arg Arg Ser Ser Ala Ser Ile Ser Arg Gln Ser His Leu Glu Pro Asp
35           40           45
Thr Phe Glu Ala Thr Gln Asp Asp Met Val Thr Val Pro Lys Ser Pro
50           55           60
Pro Ala Tyr Ala Arg Ser Ser Asp Met Tyr Ser His Met Gly Thr Met
65           70           75           80
Pro Arg Pro Ser Ile Lys Lys Ala Gln Asn Ser Gln Ala Ala Arg Gln
85           90           95
Ala Gln Glu Ala Gly Pro Lys Pro Asn Leu Val Pro Gly Gly Val Pro
100          105          110
Asp Pro Pro Gly Leu Glu Ala Ala Lys Glu Val Met Val Lys Ala Thr
115          120          125
Gly Pro Leu Glu Asp Thr Pro Ala Met Glu Pro Asn Pro Ser Ala Val
130          135          140
Glu Val Asp Pro Ile Arg Lys Pro Glu Val Pro Thr Gly Asp Val Glu
145          150          155          160
Glu Glu Arg Pro Pro Arg Asp Val His Ser Glu Arg Ala Ala Gly Glu
165          170          175
Pro Glu Ala Gly Ser Asp Tyr Val Lys Phe Ser Lys Glu Lys Tyr Ile
180          185          190
Leu Asp Ser Ser Pro Glu Lys Leu His Lys Glu Leu Glu Glu Leu
195          200          205
Lys Leu Ser Ser Thr Asp Leu Arg Ser His Ala Trp Tyr His Gly Arg
210          215          220
Ile Pro Arg Glu Val Ser Glu Thr Leu Val Gln Arg Asn Gly Asp Phe
225          230          235          240
Leu Ile Arg Asp Ser Leu Thr Ser Leu Gly Asp Tyr Val Leu Thr Cys
245          250          255
Arg Trp Arg Asn Gln Ala Leu His Phe Lys Ile Asn Lys Val Val Val
260          265          270
Lys Ala Gly Glu Ser Tyr Thr His Ile Gln Tyr Leu Phe Glu Gln Glu
275          280          285
Ser Phe Asp His Val Pro Ala Leu Val Arg Tyr His Val Gly Ser Arg
290          295          300
Lys Ala Val Ser Glu Gln Ser Gly Ala Ile Ile Tyr Cys Pro Val Asn
305          310          315          320
Arg Thr Phe Pro Leu Arg Tyr Leu Glu Ala Ser Tyr Gly Leu Gly Gln
325          330          335
Gly Ser Ser Lys Pro Ala Ser Pro Val Ser Pro Ser Gly Pro Lys Gly
340          345          350
Ser His Met Lys Arg Arg Ser Val Thr Met Thr Asp Gly Leu Thr Ala
355          360          365
Asp Lys Val Thr Arg Ser Asp Gly Cys Pro Thr Ser Thr Ser Leu Pro
370          375          380
Arg Pro Arg Asp Ser Ile Arg Ser Cys Ala Leu Ser Met Asp Gln Ile
385          390          395          400
Pro Asp Leu His Ser Pro Met Ser Pro Ile Ser Glu Ser Pro Ser Ser
405          410          415
Pro Ala Tyr Ser Thr Val Thr Arg Val His Ala Ala Pro Ala Ala Pro
420          425          430
Ser Ala Thr Ala Leu Pro Ala Ser Pro Val Ala Arg Cys Ser Ser Glu

```

435	440	445
Pro Gln Leu Cys	Pro Gly Ser Ala	Pro Lys Thr His Gly Glu Ser Asp
450	455	460
Lys Gly Pro His Thr	Ser Pro Ser His Thr	Leu Gly Lys Ala Ser Pro
465	470	475
Ser Pro Ser Leu Ser	Ser Tyr Ser Asp	Pro Asp Ser Gly His Tyr Cys
485	490	495
Gln Leu Gln Pro	Pro Val Arg Gly	Ser Arg Glu Trp Ala Ala Thr Glu
500	505	510
Thr Ser Ser Gln	Gln Ala Arg Ser	Tyr Gly Glu Arg Leu Lys Glu Leu
515	520	525
Ser Glu Asn Gly	Ala Pro Glu Gly	Asp Trp Gly Lys Thr Phe Thr Val
530	535	540
Pro Ile Val Glu	Val Thr Ser Ser	Phe Asn Pro Ala Thr Phe Gln Ser
545	550	555
Leu Leu Ile Pro	Arg Asp Asn Arg	Pro Leu Glu Val Gly Leu Leu Arg
565	570	575
Lys Val Lys Glu	Leu Leu Ala Glu	Val Asp Ala Arg Thr Leu Ala Arg
580	585	590
His Val Thr Lys	Val Asp Cys Leu	Val Ala Arg Ile Leu Gly Val Thr
595	600	605
Lys Glu Met Gln	Thr Leu Met Gly	Val Arg Trp Gly Met Glu Leu Leu
610	615	620
Thr Leu Pro His	Gly Arg Gln Leu	Arg Leu Asp Leu Leu Glu Arg Phe
625	630	635
His Thr Met Ser	Ile Met Leu Ala	Val Asp Ile Leu Gly Cys Thr Gly
645	650	655
Ser Ala Glu Glu	Arg Ala Ala Leu	Leu His Lys Thr Ile Gln Leu Ala
660	665	670
Ala Glu Leu Arg	Gly Thr Met Gly	Asn Met Phe Ser Phe Ala Ala Val
675	680	685
Met Gly Ala Leu	Asp Met Ala Gln	Ile Ser Arg Leu Glu Gln Thr Trp
690	695	700
Val Thr Leu Arg	Gln Arg His Thr	Glu Gly Ala Ile Leu Tyr Glu Lys
705	710	715
Lys Leu Lys Pro	Phe Leu Lys Ser	Leu Asn Glu Gly Lys Glu Gly Pro
725	730	735
Pro Leu Ser Asn	Thr Thr Phe Pro	His Val Leu Pro Leu Ile Thr Leu
740	745	750
Leu Glu Cys Asp	Ser Ala Pro Pro	Glu Gly Pro Glu Pro Trp Gly Ser
755	760	765
Thr Glu His Gly	Val Glu Val Val	Leu Ala His Leu Glu Ala Ala Arg
770	775	780
Thr Val Ala His	His Gly Gly Leu	Tyr His Thr Asn Ala Glu Val Lys
785	790	795
Leu Gln Gly Phe	Gln Ala Arg Pro	Glu Leu Leu Glu Val Phe Ser Thr
805	810	815
Glu Phe Gln Met	Arg Leu Leu Trp	Gly Ser Gln Gly Ala Ser Ser Ser
820	825	830
Gln Ala Arg Arg	Tyr Glu Lys Phe	Asp Lys Val Leu Thr Ala Leu Ser
835	840	845
His Lys Leu Glu	Pro Ala Val Arg	Ser Ser Glu Leu
850	855	860

<210> 4241
 <211> 479
 <212> DNA
 <213> Homo sapiens

<400> 4241
 nacgcgtttt ctgaaaggag ctctctggca ctcaccagcc gcttcctggt tggactcctg
 60
 aacgaggaga ccaggagcca cctggagaag agtctctgct ggaagggtctc gccgcacatc
 120
 aagatggacc tgttgacgtg gatccaaagc aaaactcaga gcgacggctc caccctgcag
 180
 cagggtctct tggagttctt cagctgcttg tacgagatcc aggaggagga gtttatccag
 240
 caggccctga gccacttcca ggtgatcgtg gtcagcaaca ttgcctcaa gatggagcac
 300
 atggtctcct cgttctgtct gaagcgctgc aggagcgccc aggtgctgca cttgtatggc
 360
 gccacctaca gcgcggacgg ggaagaccgc gcgaggtgtc cgcaggagcg cacacgtgt
 420
 tgggtcagct accagagagg cccgttctgc tggacgccta cagtgaacat ctggcagcg
 479

<210> 4242
 <211> 159
 <212> PRT
 <213> Homo sapiens

<400> 4242
 Xaa Ala Phe Ser Glu Arg Ser Phe Leu Ala Leu Thr Ser Arg Phe Leu
 1 5 10 15
 Phe Gly Leu Leu Asn Glu Glu Thr Arg Ser His Leu Glu Lys Ser Leu
 20 25 30
 Cys Trp Lys Val Ser Pro His Ile Lys Met Asp Leu Leu Gln Trp Ile
 35 40 45
 Gln Ser Lys Thr Gln Ser Asp Gly Ser Thr Leu Gln Gln Gly Ser Leu
 50 55 60
 Glu Phe Phe Ser Cys Leu Tyr Glu Ile Gln Glu Glu Glu Phe Ile Gln
 65 70 75 80
 Gln Ala Leu Ser His Phe Gln Val Ile Val Val Ser Asn Ile Ala Ser
 85 90 95
 Lys Met Glu His Met Val Ser Ser Phe Cys Leu Lys Arg Cys Arg Ser
 100 105 110
 Ala Gln Val Leu His Leu Tyr Gly Ala Thr Tyr Ser Ala Asp Gly Glu
 115 120 125
 Asp Arg Ala Arg Cys Pro Gln Glu Arg Thr Arg Cys Trp Cys Ser Tyr
 130 135 140
 Gln Arg Gly Pro Phe Cys Trp Thr Pro Thr Val Asn Ile Trp Gln
 145 150 155

<210> 4243
 <211> 3159
 <212> DNA
 <213> Homo sapiens

<400> 4243

ngccgcaacc cgtcccgag gtgtcctgtc tcctgtcgcc gccgcgcgcg ccaccaccgc
60
tgccactgcc gccctgccgg ggccatgttc gctctgggct tgcccttctt ggtgctcttg
120
gtggcctcgg tcgagagcca tctgggggtt ctggggccca agaacgtctc gcagaaagac
180
gccgagtttg agcgcaccta cgtggacgag gtcaacagcg agctgggtcaa catctacacc
240
ttcaaccata ctgtgacccg caacaggaca gagggcgtgc gtgtgtctgt gaacgtcctg
300
aacaagcaga agggggcgcc gttgctgttt gtggtccgcc agaaggaggc tgtggtgtcc
360
ttccaggtgc ccctaactct gcgagggatg tttcagcgca agtacctcta ccaaaaagtg
420
gaacgaaccc tgtgtcagcc cccaccaag aatgagtcgg agattcagtt cttctacgtg
480
gatgtgtcca ccctgtcacc agtcaacacc acataccagc tccgggtcag ccgcatggac
540
gattttgtgc tcaggactgg ggagcagttc agcttcaata ccacagcagc acagccccag
600
tacttcaagt atgagttccc tgaaggcgtg gactcggtaa ttgtcaaggt gacctccaac
660
aaggccttcc cctgctcagt catctccatt caggatgtgc tgtgtcctgt ctatgacctg
720
gacaacaacg tagccttcat cggcatgtac cagacgatga ccaagaaggc ggccatcacc
780
gtacagcgca aagacttccc cagcaacagc ttttatgtgg tgggtggtggg gaagaccgaa
840
gaccaagcct gggggggctc cctgccttcc tacccttcg cagaagatga accggtcgat
900
caagggcacc gccagaaaac cctgtcagtg ctggtgtctc aagcagtcac gtctgaggca
960
tacgtcagtg ggatgctctt ttgcctgggt atatttctct ccttttacct gctgaccgtc
1020
ctcctggcct gctgggagaa ctggaggcag aagaagaaga ccctgctggg ggccattgac
1080
cgagcctgcc cagaaagcgc ttctctcctt ggtcaccctc gagtcctggc tgattctttt
1140
cctggcagtt ccccttatga gggttacaac tatggctcct ttgagaatgt ttctggatct
1200
accgatggc tgggtgacag cgctggcact ggggacctct cttacggtta ccaggggcac
1260
gaccagttca agcgggcgcct cccctctggc cagatgcggc agctgtgcat tgccatgggc
1320
cgctcctttg aacctgtagg tactcgcccc cgagtggact ccatgagctc tgtggaggag
1380
gatgactacg acacattgac cgacatcgat tccgacaaga atgtcattcg caccaagcaa
1440
tacctctatg tggctgacct ggcacggaag gacaagcgtg ttctgcggaa aaagtaccag
1500
atctacttct ggaacattgc caccattgct gtcttctatg cccttctctg ggtgcagctg
1560

gtgatcacct accagacggt ggtgaatgtc acagggaatc aggacatctg ctactacaac
1620
ttcctctgcg cccaccact gggcaatctc agcgccttca acaacatcct cagcaacctg
1680
gggtacatcc tgctggggct gcttttctg ctcatcatcc tgcaacggga gatcaaccac
1740
aaccggggcc tgctgcgcaa tgacctctgt gccctggaat gtgggatccc caaacacttt
1800
gggcttttct acgccatggg cacagccctg atgatggagg ggctgctcag tgcttgctat
1860
catgtgtgcc ccaactatac caatttcag tttgacacat cgttcatgta catgatcgcc
1920
ggactctgca tgctgaagct ctaccagaag cggcaccgga acatcaacgc cagcgcctac
1980
agtgcctacg cctgcctggc cattgtcatc ttcttctctg tgctgggctt ggtctttggc
2040
aaagggaaca cggcgcttctg gatcgctctc tccatcatc acatcatcgc caccctgctc
2100
ctcagcacgc agctctatta catgggcccg tggaaactgg actcggggat cttccgccc
2160
atctccacg tgctctacac agactgcac cggcagtgc gcgggcccgt ctacgtggac
2220
cgcctgggct tgctgggcat gggcaacgct atcaactggt cgctgggctc ctatgggctt
2280
atcatgcgcc ccaatgattt cgcttccctc ttgttggcca ttggcatctg caacctgctc
2340
ctttacttct ccttctacat catcatgaag ctccggagtg gggagaggat caagctcatc
2400
cccctgctct gcatcgcttg cacctccgtg gtctggggct tcgcgctctt cttcttcttc
2460
cagggaactc gcacctggca gaaaaccctc gcagagtcga gggagcaca cggggaactg
2520
atcctcctcg acttctttga cgaccacgac atctggcact tcctctctc catcgccatg
2580
ttcgggtcct tcctggtaag cgggcctccc ggcgcagcgt tgaggataac gtgaaaggta
2640
gcagctgcct ccttctctgt gagctgatct ggcgtccaca cccaggtgt tagctgacac
2700
tggatgacga cctggatact tagaaagggg cttcaggaag ggatgtgctg tttccctcta
2760
cgtgccagct cctagcctcg ctctaggacc cagggtggc ttctaagttt ccgtccagtc
2820
ttcaggcaag ttctgtgta gtcatgcaca cacataccta tgaaaccttg aagtttaca
2880
agaattgccc cagctctggg caccctggcc accctggtcc ttggatcccc ttcgtccac
2940
ctggctccac ccagatgctg aggatggggg agctcaggcg gggcctctgc tttggggatg
3000
ggaatgtgtt tttctcccaa acttggtttt atagctctgc ttgaagggtt gggagatgag
3060
gtgggtctgg atcttttctc agagcgtctc catgctatgg ttgcatttcc gttttctatg
3120
aatgaatttg catacaataa ccaaccagac tcagtaaaa
3159

<210> 4244
 <211> 849
 <212> PRT
 <213> Homo sapiens

<400> 4244
 Met Phe Ala Leu Gly Leu Pro Phe Leu Val Leu Leu Val Ala Ser Val
 1 5 10 15
 Glu Ser His Leu Gly Val Leu Gly Pro Lys Asn Val Ser Gln Lys Asp
 20 25 30
 Ala Glu Phe Glu Arg Thr Tyr Val Asp Glu Val Asn Ser Glu Leu Val
 35 40 45
 Asn Ile Tyr Thr Phe Asn His Thr Val Thr Arg Asn Arg Thr Glu Gly
 50 55 60
 Val Arg Val Ser Val Asn Val Leu Asn Lys Gln Lys Gly Ala Pro Leu
 65 70 75 80
 Leu Phe Val Val Arg Gln Lys Glu Ala Val Val Ser Phe Gln Val Pro
 85 90 95
 Leu Ile Leu Arg Gly Met Phe Gln Arg Lys Tyr Leu Tyr Gln Lys Val
 100 105 110
 Glu Arg Thr Leu Cys Gln Pro Pro Thr Lys Asn Glu Ser Glu Ile Gln
 115 120 125
 Phe Phe Tyr Val Asp Val Ser Thr Leu Ser Pro Val Asn Thr Thr Tyr
 130 135 140
 Gln Leu Arg Val Ser Arg Met Asp Asp Phe Val Leu Arg Thr Gly Glu
 145 150 155 160
 Gln Phe Ser Phe Asn Thr Thr Ala Ala Gln Pro Gln Tyr Phe Lys Tyr
 165 170 175
 Glu Phe Pro Glu Gly Val Asp Ser Val Ile Val Lys Val Thr Ser Asn
 180 185 190
 Lys Ala Phe Pro Cys Ser Val Ile Ser Ile Gln Asp Val Leu Cys Pro
 195 200 205
 Val Tyr Asp Leu Asp Asn Asn Val Ala Phe Ile Gly Met Tyr Gln Thr
 210 215 220
 Met Thr Lys Lys Ala Ala Ile Thr Val Gln Arg Lys Asp Phe Pro Ser
 225 230 235 240
 Asn Ser Phe Tyr Val Val Val Val Val Lys Thr Glu Asp Gln Ala Cys
 245 250 255
 Gly Gly Ser Leu Pro Phe Tyr Pro Phe Ala Glu Asp Glu Pro Val Asp
 260 265 270
 Gln Gly His Arg Gln Lys Thr Leu Ser Val Leu Val Ser Gln Ala Val
 275 280 285
 Thr Ser Glu Ala Tyr Val Ser Gly Met Leu Phe Cys Leu Gly Ile Phe
 290 295 300
 Leu Ser Phe Tyr Leu Leu Thr Val Leu Leu Ala Cys Trp Glu Asn Trp
 305 310 315 320
 Arg Gln Lys Lys Lys Thr Leu Leu Val Ala Ile Asp Arg Ala Cys Pro
 325 330 335
 Glu Ser Ala Ser Leu Leu Gly His Pro Arg Val Leu Ala Asp Ser Phe
 340 345 350
 Pro Gly Ser Ser Pro Tyr Glu Gly Tyr Asn Tyr Gly Ser Phe Glu Asn
 355 360 365
 Val Ser Gly Ser Thr Asp Gly Leu Val Asp Ser Ala Gly Thr Gly Asp

```

      370              375              380
Leu Ser Tyr Gly Tyr Gln Gly His Asp Gln Phe Lys Arg Arg Leu Pro
385              390              395              400
Ser Gly Gln Met Arg Gln Leu Cys Ile Ala Met Gly Arg Ser Phe Glu
      405              410              415
Pro Val Gly Thr Arg Pro Arg Val Asp Ser Met Ser Ser Val Glu Glu
      420              425              430
Asp Asp Tyr Asp Thr Leu Thr Asp Ile Asp Ser Asp Lys Asn Val Ile
      435              440              445
Arg Thr Lys Gln Tyr Leu Tyr Val Ala Asp Leu Ala Arg Lys Asp Lys
      450              455              460
Arg Val Leu Arg Lys Lys Tyr Gln Ile Tyr Phe Trp Asn Ile Ala Thr
465              470              475              480
Ile Ala Val Phe Tyr Ala Leu Pro Val Val Gln Leu Val Ile Thr Tyr
      485              490              495
Gln Thr Val Val Asn Val Thr Gly Asn Gln Asp Ile Cys Tyr Tyr Asn
      500              505              510
Phe Leu Cys Ala His Pro Leu Gly Asn Leu Ser Ala Phe Asn Asn Ile
      515              520              525
Leu Ser Asn Leu Gly Tyr Ile Leu Leu Gly Leu Leu Phe Leu Leu Ile
      530              535              540
Ile Leu Gln Arg Glu Ile Asn His Asn Arg Ala Leu Leu Arg Asn Asp
545              550              555              560
Leu Cys Ala Leu Glu Cys Gly Ile Pro Lys His Phe Gly Leu Phe Tyr
      565              570              575
Ala Met Gly Thr Ala Leu Met Met Glu Gly Leu Leu Ser Ala Cys Tyr
      580              585              590
His Val Cys Pro Asn Tyr Thr Asn Phe Gln Phe Asp Thr Ser Phe Met
      595              600              605
Tyr Met Ile Ala Gly Leu Cys Met Leu Lys Leu Tyr Gln Lys Arg His
      610              615              620
Pro Asp Ile Asn Ala Ser Ala Tyr Ser Ala Tyr Ala Cys Leu Ala Ile
625              630              635              640
Val Ile Phe Phe Ser Val Leu Gly Val Val Phe Gly Lys Gly Asn Thr
      645              650              655
Ala Phe Trp Ile Val Phe Ser Ile Ile His Ile Ile Ala Thr Leu Leu
      660              665              670
Leu Ser Thr Gln Leu Tyr Tyr Met Gly Arg Trp Lys Leu Asp Ser Gly
      675              680              685
Ile Phe Arg Arg Ile Leu His Val Leu Tyr Thr Asp Cys Ile Arg Gln
      690              695              700
Cys Ser Gly Pro Leu Tyr Val Asp Arg Met Val Leu Leu Val Met Gly
705              710              715              720
Asn Val Ile Asn Trp Ser Leu Ala Ala Tyr Gly Leu Ile Met Arg Pro
      725              730              735
Asn Asp Phe Ala Ser Tyr Leu Leu Ala Ile Gly Ile Cys Asn Leu Leu
      740              745              750
Leu Tyr Phe Ala Phe Tyr Ile Ile Met Lys Leu Arg Ser Gly Glu Arg
      755              760              765
Ile Lys Leu Ile Pro Leu Leu Cys Ile Val Cys Thr Ser Val Val Trp
      770              775              780
Gly Phe Ala Leu Phe Phe Phe Phe Gln Gly Leu Ser Thr Trp Gln Lys
785              790              795              800
Thr Pro Ala Glu Ser Arg Glu His Asn Arg Asp Cys Ile Leu Leu Asp

```


[illegible]

```
<210> 4245
<211> 909
<212> DNA
<213> Homo sapiens
```

```

<400> 4245
ngggcccaaga gcctccaaga ggctgcacac caggagctca acaccctcaa gttccagctg
60
agtgctgaaa tcatggacta ccagagcaga cttaagaatg ctggtgaaga gtgcaagagc
120
ctcaggggcc agcttgagga gcaaggccgg cagctgcagg ctgctgagga agctgtggag
180
aagctgaagg ccacccaagc agacatggga gagaagctga gctgcactag caaccatctt
240
gcagagtgcc aggcggccat gctgaggaag gacaaggagg gggctgccct gcgtgaagac
300
ctagaaagga ccagaagga actcgaaaaa gccacaacaa aaatccaaga gtattacaac
360
aaactctgcc aggaggtgac aaatcgtgag aggaatgacc agaagatgct tgctgacctg
420
gatgacctca acagaaccaa gaagtatctc gaggagcggc tgatagagct gctcagggac
480
aaggatgctc tctggcagaa gtcagatgcc ctggaattcc agcagaagct cagtgtctgag
540
gagagatggc tcggagacac agaggcaaac cactgcctcg actgtaagcg ggagttcagc
600
tggtatggtg ggcggcacca ctgcaggata tgtggccgca tcttctgtta ctactgctgc
660
aacaactacg tcctgagcaa gcacgggtggc aaaaaggagc gctgctgccg agcctgtttc
720
cagaagctca gtgaaggccc tggctccctt gatagcagtg gctcaggcac tagccagggg
780
gagctcagcc ctgcactgtc accagcctca cctgggcccc aggccacagg aggccaaagg
840
gcaaatacag actacaggcc accggacgac gctgtgtttg atatcatcac agatgaggaa
900
ttgtgccag
909

```

```
<210> 4246
<211> 303
<212> PRT
<213> Homo sapiens
```

<400> 4246
Xaa Ala Gln Ser Leu Gln Glu Ala Ala His Gln Glu Leu Asn Thr Leu

```

      1           5           10           15
Lys Phe Gln Leu Ser Ala Glu Ile Met Asp Tyr Gln Ser Arg Leu Lys
      20           25           30
Asn Ala Gly Glu Glu Cys Lys Ser Leu Arg Gly Gln Leu Glu Glu Gln
      35           40           45
Gly Arg Gln Leu Gln Ala Ala Glu Glu Ala Val Glu Lys Leu Lys Ala
      50           55           60
Thr Gln Ala Asp Met Gly Glu Lys Leu Ser Cys Thr Ser Asn His Leu
      65           70           75           80
Ala Glu Cys Gln Ala Ala Met Leu Arg Lys Asp Lys Glu Gly Ala Ala
      85           90           95
Leu Arg Glu Asp Leu Glu Arg Thr Gln Lys Glu Leu Glu Lys Ala Thr
      100          105          110
Thr Lys Ile Gln Glu Tyr Tyr Asn Lys Leu Cys Gln Glu Val Thr Asn
      115          120          125
Arg Glu Arg Asn Asp Gln Lys Met Leu Ala Asp Leu Asp Asp Leu Asn
      130          135          140
Arg Thr Lys Lys Tyr Leu Glu Glu Arg Leu Ile Glu Leu Leu Arg Asp
      145          150          155          160
Lys Asp Ala Leu Trp Gln Lys Ser Asp Ala Leu Glu Phe Gln Gln Lys
      165          170          175
Leu Ser Ala Glu Glu Arg Trp Leu Gly Asp Thr Glu Ala Asn His Cys
      180          185          190
Leu Asp Cys Lys Arg Glu Phe Ser Trp Met Val Arg Arg His His Cys
      195          200          205
Arg Ile Cys Gly Arg Ile Phe Cys Tyr Tyr Cys Cys Asn Asn Tyr Val
      210          215          220
Leu Ser Lys His Gly Gly Lys Lys Glu Arg Cys Cys Arg Ala Cys Phe
      225          230          235          240
Gln Lys Leu Ser Glu Gly Pro Gly Ser Pro Asp Ser Ser Gly Ser Gly
      245          250          255
Thr Ser Gln Gly Glu Leu Ser Pro Ala Leu Ser Pro Ala Ser Pro Gly
      260          265          270
Pro Gln Ala Thr Gly Gly Gln Gly Ala Asn Thr Asp Tyr Arg Pro Pro
      275          280          285
Asp Asp Ala Val Phe Asp Ile Thr Asp Glu Glu Leu Cys Gln
      290          295          300

```

<210> 4247

<211> 5755

<212> DNA

<213> Homo sapiens

<400> 4247

```

caccctctgg acaagagaac gggcgagcgg gagctaggag ggaagagtgg agaggaccgg
60
cgaggcgcg cagccggagc cacctccttc ccggccgccc cctccccact ccccctacac
120
acacacgctc gctcgctcgc cggcgcgcgc acaccccccg cgccggaccc gcacctcggc
180
gggcgccaca cactcggcag ccgagccgc ggtagccgca gcgggatgga ggccggcgcg
240
acggagcgcc ccgagggcag gccggggggc ccgcttgctc ggacggggct cctactcttg
300

```

tcgacgtggg tccctggccg cgccgagatc acttgggacg cgacaggcgg tcccggacgc
360
ccggcgggcc cggtctcgcg gccaccggcg ttgtctccac tctcgccgcg ggcagtggcc
420
agccagtggc cggaggagct ggcgtcggcg cggagagccg ccgtgctggg gcgccgggccc
480
ggaccagagc tgctgccccca gcaggggcggc ggcagaggcg gtgagatgca ggtggaagcc
540
ggagggacat caccggcagg cgagcggcgg ggcgggggca tcccagctcc tgccaagctt
600
ggcggcgcgga ggaggagtgc cggggcgag ccccaatca cccaggaacg cggggacgcc
660
tgggccactg ctccggccga tggttccaga ggaagccgc cccttgctaa gggttcccgg
720
gaggaggtga aggcgccgcg ggctgggggg tcggcggctg aagacctccg gctgcccagc
780
acctccttcg cgctgaccgg ggactcggcc cacaaccaag ccatggtgca ctggtcggga
840
cacaacagca gcgtcactat tatcctgacg aagctgtatg acttcaacct gggcagcgtg
900
actgagagtt cactatggag gtcgacagat tatggcacca cctatgaaaa gctgaatgac
960
aaagtgggtt tgaagactgt cctcagttac ctctatgtca atccaaccaa caaaaggaag
1020
attatgcttc tcagtgatcc tgagatggag agcagcatat tgatcagctc agacgaaggg
1080
gcgacctatc agaagtatcg gctcaccttc tatatccaga gcctgctctt tcatcccaag
1140
caagaggact ggggtgctggc ctacagtttg gatcaaaagc tctacagctc catggacttt
1200
ggaagacggg ggcaactcat gcatgaacgc atcacacca acaggtttta ttggtcggtg
1260
gccggattgg ataaggaggc ggacctggcg cacatggagg tgcggaccac ggatggatat
1320
gctcactacc tcacctgcag gatccaggaa tgtgccgaga caactagaag tgggcctttt
1380
gcccgtcca ttgacatcag ttccttggtt gtccaggatg aatatatctt cattcaggta
1440
acaactagtg gaagagccag ctactacgtg tcttatcgaa gagaggcctt tgctcagata
1500
aagtcgcta agtactcgtt gccaaaggac atgcacatca tcagtacaga cgagaaccaa
1560
gtatttgctg cgggtccaaga atggaaccag aatgacacgt acaacctcta catctcagac
1620
acgcgtggga ttacttcac tctggccatg gagaacatca agagcagcag aggtctaatt
1680
gggaacatca ttattgaatt gtatgaggta gcaggatca aagggatatt tctggcaaac
1740
aagaaggtgg acgaccaggc gaagacatac atcacttaca acaaaggcag ggattggcgc
1800
ctgctgcaag ctccggatgt ggacctgaga ggaagcccag tgcactgcct gctgcccttc
1860
tgttccttac atctgcacct gcaactctct gaaaatccat attcctcagg aagaatctct
1920

agcaaggaga cagccccagg acttggtggtg gctacaggca acattggccc ggagctctca
1980
tatactgata ttggtgtggt catctcctcc gatgggggca acacatggag acagatcttt
2040
gatgaagagt acaatgtctg gttcctagac tggggtggtg ccctcgtggc catgaaacac
2100
acacctctgc cagtcaggca tttgtgggtg agttttgatg agggccactc ttgggacaag
2160
tatggtttca cttcggttcc tctctttggt gacggggctc tgggtggaggc aggaatggag
2220
accacatca tgacagtttt tggccacttc agcctccgct ccgaatggca attggtgaaa
2280
gtggactaca aatctatctt cagccggcat tgcaccaagg aggactatca gacctggcac
2340
ctgctcaatc agggagagcc ttgtgtcatg ggagaaagga aaatattcaa gaaacgtaag
2400
ccaggagctc agtgtgccct gggccgagac cactcaggat cagtggcttc agaaccctgt
2460
gtctgtgcca attgggactt cgagtgtgac tatgggtatg agagacatgg ggagagccag
2520
tgtgtcccag ctttctggta caatccagca tccccatcaa aggactgcag ccttgggtcaa
2580
agctacctta acagcactgg gtatcggcgg attgtgtcca acaactgcac agatgggcta
2640
agggagaagt acaccgcaa ggcccagatg tgccctggaa aagcccctcg gggcctccat
2700
gtggtgacga ccgatgggcg gctggtggca gagcaggggc acaatgcaac tttcatcatc
2760
ctcatggagg agggatgatct acaaaggaca aacatccagc ttgactttgg ggatgggatt
2820
gctgtgtcct acgcaaactt cagccccatc gaggacggca tcaagcacgt gtataagagt
2880
gcggggatct tccaggtgac agcctatgca gagaacaacc ttggctcaga cacagctgtc
2940
ctcttcctgc atgtggtttg tcctgtggag catgttcac tccgagttcc atttgttgcc
3000
ataagaaata aggaggtcaa catcagtga gtcgtgtggc ccagtcaact ggggaccctt
3060
acctatttct ggtggttcgg caatagcaca aagcctctca tcaactttga cagcagcatt
3120
tccttcacat tccttgaga aggaaccgac accatcacag tccaggtggc tgctgggaat
3180
gccctcatcc aggaacaaaa agagattgca gttcatgaat atttccagtc ccagctttta
3240
tcattctctc ctaatctgga ttaccacaat cctgacattc ctgagtggag aaaagatatt
3300
ggcaatgtca tcaagcgagc tctggttaaa gtaaccagtg tcccagagga ccagatcctc
3360
attgccgtgt ttctggtct ccccaactta gcagagcttt tcattcttcc acccaagaac
3420
ctgacagaga ggaggaaaagg caatgaaggg gacctggaac aaattgtaga aacactgttt
3480
aatgctctca accaaaattt ggtccagttt gagctgaagc cgggggtaca agtcattgtg
3540

tatgtcacac agctgacgtt agctccattg gtggactcca gtgctgggca cagcagctca
3600
gccatgctta tgctattatc agtgggtattt gttggcctgg ctgtgttttt gatctacaag
3660
tttaaaagga aaatcccttg gattaacatc tatgtctcaag tccaacacga caaggagcag
3720
gagatgattg ggtcagttag ccaaagtga aacgccccca aaatcacact cagtgacttt
3780
acggagcctg aggagctgct ggacaaagag ctggacacgc gggtcataagg aggcattgcc
3840
actattgcaa acagcgaaag cacaaaggag atccccaact gcactagtgt ttaataccag
3900
caagccacgt ggtcaaccac ctttctgact ttttattttt gatgattact attactatta
3960
ttatggaaaa attaaaatgt cttttttacc ttttgtttac caagggcccc ttcataaata
4020
gcaggcaaat gcctagcttt gggagaaaaag ggcattctta gctgattgaa atgagacaaa
4080
gggaataaat ggctgtattt gtgctaagag caaaggatgc atcttccac agcctcctcg
4140
ctttactctg ccattggtag cttaaagact ttctttttcc ttgtggtctc ccttttttca
4200
aaattgaagt tgggttggct ctttgtgaac ctctcatccc cacagcagaa tcaccaaac
4260
tctccgcttc ccccgacaca cacacataca acacagatca tttcccagtt agatccgcag
4320
gaagttaggtt ggtgggggtg gatgtagctg cagaaagcat gcacaacttt gtgaaagagg
4380
ccctgccttg tgcatgtcca tagtgaggct acagatggct tattgtatat aattacaatg
4440
taaatagctt tttatttctt aagaaataat ttaatgttta gtaaaaaaga aaacagaaaa
4500
aagaaagatg cgtgtgttgg cttacgcact ggccctcaga gctgaccaac ccgccaggcc
4560
tgctcaatgc attgggttgg gatgctctcc tgttgtctgt cacacttaac tcttgcctt
4620
ccttgtccat gccatagctg gtttctactt atgtatataa aggggggtgg ggggagggg
4680
ttctctgggg caattgataa aggaaggact ctagtacat catagaacat ggcagtcgtt
4740
tttgttccaa gaatgatatg aaaggtgaag aagaggccca ctagaggctt catactgaga
4800
cccagatggg ggaacacagc ttctctctta aaaggaaaaa cttgatattt atcagtctga
4860
gaaaatattt ttttctaaag aaggcagtca gtggatctta aaatgacaat ctgtttttta
4920
attggattct atgaaaatgc ataagtctta tgggtgaattc tcaggctatt ctgagctcag
4980
aaaagtcccc tgggcactag gtaaagccca gtgaatgtct cttggcatgg gaggagttaa
5040
agagggttga agggaagagg catttgtgga attatgagtt catgcaaac tctccaggcc
5100
aagtaggggt ctagccttta atgatattag tcaaaggcaa ttttagcaaa gctgtgctat
5160

ttgcttgatca gatgtacaca acttccttaa agtcaaagt ctgccttcag ttcccttaag
 5220
 gtagttcttg cctctggggg gāgtggcttt caaagccttt tagcttttcc agcacctcag
 5280
 ccccttcaca catttacaca taccaatttt tttcaatagg gtcacgttaa gccatgctgt
 5340
 aagcattggt tttattttca ggcttagcct gagcacactt atttttgaaa atgatataat
 5400
 gtatatatat gggaggaaaag gccacatttt gtacctgtta atttttgtgg gatgttggtc
 5460
 ccattcttct ttgtgagaca gagagaatgt gatatagaga aatctggctg gctacagtgt
 5520
 agatcagtat taggaatatt tctaaagatc ctgctttttt gtttcaaggg ttaaatgggg
 5580
 cagacaattg caatacttgt actaaacact ggaatacaaa tgcattgactc atatctatat
 5640
 atacagtata tgtacatata ctgttcttgg ttttattggt ccacttgaat atttctactg
 5700
 taataaaaaag acagtgggtt tgaaattggt gaaaataaat gtatttttgt acatc
 5755

<210> 4248

<211> 1297

<212> PRT

<213> Homo sapiens

<400> 4248

His	Pro	Leu	Asp	Lys	Arg	Thr	Gly	Glu	Arg	Glu	Leu	Gly	Gly	Lys	Ser
1				5					10					15	
Gly	Glu	Asp	Arg	Arg	Gly	Ala	Pro	Ala	Gly	Ala	Thr	Ser	Phe	Pro	Ala
			20					25					30		
Ala	Pro	Ser	Pro	Leu	Pro	Leu	His	Thr	His	Ala	Arg	Ser	Leu	Ala	Gly
		35				40						45			
Ala	Arg	Thr	Pro	Pro	Ala	Pro	Asp	Pro	His	Leu	Gly	Gly	Arg	His	Thr
	50					55					60				
Leu	Gly	Ser	Pro	Ser	Arg	Gly	Ser	Arg	Ser	Gly	Met	Glu	Ala	Ala	Arg
65					70				75					80	
Thr	Glu	Arg	Pro	Ala	Gly	Arg	Pro	Gly	Ala	Pro	Leu	Val	Arg	Thr	Gly
				85				90						95	
Leu	Leu	Leu	Leu	Ser	Thr	Trp	Val	Leu	Ala	Gly	Ala	Glu	Ile	Thr	Trp
			100					105					110		
Asp	Ala	Thr	Gly	Gly	Pro	Gly	Arg	Pro	Ala	Ala	Pro	Ala	Ser	Arg	Pro
		115				120						125			
Pro	Ala	Leu	Ser	Pro	Leu	Ser	Pro	Arg	Ala	Val	Ala	Ser	Gln	Trp	Pro
	130					135					140				
Glu	Glu	Leu	Ala	Ser	Ala	Arg	Arg	Ala	Ala	Val	Leu	Gly	Arg	Arg	Ala
145					150					155					160
Gly	Pro	Glu	Leu	Leu	Pro	Gln	Gln	Gly	Gly	Arg	Gly	Gly	Glu	Met	
			165					170					175		
Gln	Val	Glu	Ala	Gly	Gly	Thr	Ser	Pro	Ala	Gly	Glu	Arg	Arg	Gly	Arg
			180					185					190		
Gly	Ile	Pro	Ala	Pro	Ala	Lys	Leu	Gly	Gly	Ala	Arg	Arg	Ser	Arg	Arg
		195				200					205				
Ala	Gln	Pro	Pro	Ile	Thr	Gln	Glu	Arg	Gly	Asp	Ala	Trp	Ala	Thr	Ala

210	215	220
Pro Ala Asp Gly Ser Arg	Gly Ser Arg Pro Leu Ala Lys Gly Ser Arg	
225	230	235
Glu Glu Val Lys Ala Pro Arg	Ala Gly Gly Ser Ala Ala Glu Asp Leu	240
	245	250
Arg Leu Pro Ser Thr Ser Phe	Ala Leu Thr Gly Asp Ser Ala His Asn	255
	260	265
Gln Ala Met Val His Trp Ser	Gly His Asn Ser Ser Val Ile Leu Ile	270
	275	280
Leu Thr Lys Leu Tyr Asp Phe	Asn Leu Gly Ser Val Thr Glu Ser Ser	285
	290	295
Leu Trp Arg Ser Thr Asp Tyr	Gly Thr Thr Tyr Glu Lys Leu Asn Asp	300
305	310	315
Lys Val Gly Leu Lys Thr Val	Leu Ser Tyr Leu Tyr Val Asn Pro Thr	320
	325	330
Asn Lys Arg Lys Ile Met Leu	Leu Ser Asp Pro Glu Met Glu Ser Ser	335
	340	345
Ile Leu Ile Ser Ser Asp Glu	Gly Ala Thr Tyr Gln Lys Tyr Arg Leu	350
	355	360
Thr Phe Tyr Ile Gln Ser Leu	Phe His Pro Lys Gln Glu Asp Trp	365
	370	375
Val Leu Ala Tyr Ser Leu Asp	Gln Lys Leu Tyr Ser Ser Met Asp Phe	380
385	390	395
Gly Arg Arg Trp Gln Leu Met	His Glu Arg Ile Thr Pro Asn Arg Phe	400
	405	410
Tyr Trp Ser Val Ala Gly Leu	Asp Lys Glu Ala Asp Leu Val His Met	415
	420	425
Glu Val Arg Thr Thr Asp Gly	Tyr Ala His Tyr Leu Thr Cys Arg Ile	430
	435	440
Gln Glu Cys Ala Glu Thr Thr	Arg Ser Gly Pro Phe Ala Arg Ser Ile	445
	450	455
Asp Ile Ser Ser Leu Val Val	Gln Asp Glu Tyr Ile Phe Ile Gln Val	460
465	470	475
Thr Thr Ser Gly Arg Ala Ser	Tyr Tyr Val Ser Tyr Arg Arg Glu Ala	480
	485	490
Phe Ala Gln Ile Lys Leu Pro	Lys Tyr Ser Leu Pro Lys Asp Met His	495
	500	505
Ile Ile Ser Thr Asp Glu Asn	Gln Val Phe Ala Ala Val Gln Glu Trp	510
	515	520
Asn Gln Asn Asp Thr Tyr Asn	Leu Tyr Ile Ser Asp Thr Arg Gly Ile	525
	530	535
Tyr Phe Thr Leu Ala Met Glu	Asn Ile Lys Ser Ser Arg Gly Leu Met	540
545	550	555
Gly Asn Ile Ile Ile Glu Leu	Tyr Glu Val Ala Gly Ile Lys Gly Ile	560
	565	570
Phe Leu Ala Asn Lys Lys Val	Asp Asp Gln Val Lys Thr Tyr Ile Thr	575
	580	585
Tyr Asn Lys Gly Arg Asp Trp	Arg Leu Leu Gln Ala Pro Asp Val Asp	590
	595	600
Leu Arg Gly Ser Pro Val His	Cys Leu Leu Pro Phe Cys Ser Leu His	605
	610	615
Leu His Leu Gln Leu Ser Glu	Asn Pro Tyr Ser Ser Gly Arg Ile Ser	620
625	630	635
Ser Lys Glu Thr Ala Pro Gly	Leu Val Val Ala Thr Gly Asn Ile Gly	640

															645								650								655		
Pro	Glu	Leu	Ser	Tyr	Thr	Asp	Ile	Gly	Val	Phe	Ile	Ser	Ser	Asp	Gly																		
															660								665								670		
Gly	Asn	Thr	Trp	Arg	Gln	Ile	Phe	Asp	Glu	Glu	Tyr	Asn	Val	Trp	Phe																		
															675								680								685		
Leu	Asp	Trp	Gly	Gly	Ala	Leu	Val	Ala	Met	Lys	His	Thr	Pro	Leu	Pro																		
															690								695								700		
Val	Arg	His	Leu	Trp	Val	Ser	Phe	Asp	Glu	Gly	His	Ser	Trp	Asp	Lys																		
															705								710								715		
Tyr	Gly	Phe	Thr	Ser	Val	Pro	Leu	Phe	Val	Asp	Gly	Ala	Leu	Val	Glu																		
															725								730								735		
Ala	Gly	Met	Glu	Thr	His	Ile	Met	Thr	Val	Phe	Gly	His	Phe	Ser	Leu																		
															740								745								750		
Arg	Ser	Glu	Trp	Gln	Leu	Val	Lys	Val	Asp	Tyr	Lys	Ser	Ile	Phe	Ser																		
															755								760								765		
Arg	His	Cys	Thr	Lys	Glu	Asp	Tyr	Gln	Thr	Trp	His	Leu	Leu	Asn	Gln																		
															770								775								780		
Gly	Glu	Pro	Cys	Val	Met	Gly	Glu	Arg	Lys	Ile	Phe	Lys	Lys	Arg	Lys																		
															785								790								795		
Pro	Gly	Ala	Gln	Cys	Ala	Leu	Gly	Arg	Asp	His	Ser	Gly	Ser	Val	Val																		
															805								810								815		
Ser	Glu	Pro	Cys	Val	Cys	Ala	Asn	Trp	Asp	Phe	Glu	Cys	Asp	Tyr	Gly																		
															820								825								830		
Tyr	Glu	Arg	His	Gly	Glu	Ser	Gln	Cys	Val	Pro	Ala	Phe	Trp	Tyr	Asn																		
															835								840								845		
Pro	Ala	Ser	Pro	Ser	Lys	Asp	Cys	Ser	Leu	Gly	Gln	Ser	Tyr	Leu	Asn																		
															850								855								860		
Ser	Thr	Gly	Tyr	Arg	Arg	Ile	Val	Ser	Asn	Asn	Cys	Thr	Asp	Gly	Leu																		
															865								870								875		
Arg	Glu	Lys	Tyr	Thr	Ala	Lys	Ala	Gln	Met	Cys	Pro	Gly	Lys	Ala	Pro																		
															885								890								895		
Arg	Gly	Leu	His	Val	Val	Thr	Thr	Asp	Gly	Arg	Leu	Val	Ala	Glu	Gln																		
															900								905								910		
Gly	His	Asn	Ala	Thr	Phe	Ile	Ile	Leu	Met	Glu	Glu	Gly	Asp	Leu	Gln																		
															915								920								925		
Arg	Thr	Asn	Ile	Gln	Leu	Asp	Phe	Gly	Asp	Gly	Ile	Ala	Val	Ser	Tyr																		
															930								935								940		
Ala	Asn	Phe	Ser	Pro	Ile	Glu	Asp	Gly	Ile	Lys	His	Val	Tyr	Lys	Ser																		
															945								950								955		
Ala	Gly	Ile	Phe	Gln	Val	Thr	Ala	Tyr	Ala	Glu	Asn	Asn	Leu	Gly	Ser																		
															965								970								975		
Asp	Thr	Ala	Val	Leu	Phe	Leu	His	Val	Val	Cys	Pro	Val	Glu	His	Val																		
															980								985								990		
His	Leu	Arg	Val	Pro	Phe	Val	Ala	Ile	Arg	Asn	Lys	Glu	Val	Asn	Ile																		
															995								1000								1005		
Ser	Ala	Val	Val	Trp	Pro	Ser	Gln	Leu	Gly	Thr	Leu	Thr	Tyr	Phe	Trp																		
															1010								1015								1020		
Trp	Phe	Gly	Asn	Ser	Thr	Lys	Pro	Leu	Ile	Thr	Leu	Asp	Ser	Ser</																			

1075	1080	1085
His Asn Pro Asp Ile Pro Glu Trp Arg Lys Asp Ile Gly Asn Val Ile		
1090	1095	1100
Lys Arg Ala Leu Val Lys Val Thr Ser Val Pro Glu Asp Gln Ile Leu		
1105	1110	1115
Ile Ala Val Phe Pro Gly Leu Pro Thr Ser Ala Glu Leu Phe Ile Leu		
1125	1130	1135
Pro Pro Lys Asn Leu Thr Glu Arg Arg Lys Gly Asn Glu Gly Asp Leu		
1140	1145	1150
Glu Gln Ile Val Glu Thr Leu Phe Asn Ala Leu Asn Gln Asn Leu Val		
1155	1160	1165
Gln Phe Glu Leu Lys Pro Gly Val Gln Val Ile Val Tyr Val Thr Gln		
1170	1175	1180
Leu Thr Leu Ala Pro Leu Val Asp Ser Ser Ala Gly His Ser Ser Ser		
1185	1190	1195
Ala Met Leu Met Leu Leu Ser Val Val Phe Val Gly Leu Ala Val Phe		
1205	1210	1215
Leu Ile Tyr Lys Phe Lys Arg Lys Ile Pro Trp Ile Asn Ile Tyr Ala		
1220	1225	1230
Gln Val Gln His Asp Lys Glu Gln Glu Met Ile Gly Ser Val Ser Gln		
1235	1240	1245
Ser Glu Asn Ala Pro Lys Ile Thr Leu Ser Asp Phe Thr Glu Pro Glu		
1250	1255	1260
Glu Leu Leu Asp Lys Glu Leu Asp Thr Arg Val Ile Gly Gly Ile Ala		
1265	1270	1275
Thr Ile Ala Asn Ser Glu Ser Thr Lys Glu Ile Pro Asn Cys Thr Ser		
1285	1290	1295
Val		

<210> 4249

<211> 553

<212> DNA

<213> Homo sapiens

<400> 4249

```

nnccggggccc tccccaaaaa ggaccagggtt gtccagaaaa gtgagcagct aaaactgttt
60
ctaagaaact caactgcatac cagaacaaag attaagatga tttataaaaa tgctaaaaca
120
cccagcacgc aacatggtaa aattcgcaat gcctcaggca tcaacccgag agtaccaggc
180
ccacaggaag gcagcataat aggaccccaa acaaggagga aaagcagcct cctgaaaccg
240
accctgatat cagaaccagc agacatgggc actcagcagt tcttacaact gaatcccaat
300
ctgcaaaagt ttagtagaga catggaagac gtaaagggga cccaagcaa gcctctagag
360
aattataaca tgttggctgg gcttgggtggc tcacgcgtgt catcgcagca ctttgggagg
420
ctgaggcagg aggatcgctt gagcccagga gttcaagacc agcctggacc acatagtgag
480
acccccatct cataaaaaat aaaaaaaaat tgaattacaa cacgaggtga caaaagcact
540

```

ggatgagatt aac
553

<210> 4250
<211> 164
<212> PRT
<213> Homo sapiens

<400> 4250
Xaa Arg Ala Leu Pro Lys Lys Asp Gln Val Val Gln Lys Ser Glu Gln
1 5 10 15
Leu Lys Leu Phe Leu Arg Asn Ser Thr Ala Ser Arg Thr Lys Ile Lys
20 25 30
Met Ile Tyr Lys Asn Ala Lys Thr Pro Ser Thr Gln His Gly Lys Ile
35 40 45
Arg Asn Ala Ser Gly Ile Asn Pro Arg Val Pro Gly Pro Gln Glu Gly
50 55 60
Ser Ile Ile Gly Pro Gln Thr Arg Arg Lys Ser Ser Leu Leu Lys Pro
65 70 75 80
Thr Leu Ile Ser Glu Pro Ala Asp Met Gly Thr Gln Gln Phe Leu Gln
85 90 95
Leu Asn Pro Asn Leu Gln Lys Phe Ser Arg Asp Met Glu Asp Val Lys
100 105 110
Gly Thr Pro Ser Lys Pro Leu Glu Asn Tyr Asn Met Leu Ala Gly Leu
115 120 125
Gly Gly Ser Arg Val Ser Ser Gln His Phe Gly Arg Leu Arg Gln Glu
130 135 140
Asp Arg Leu Ser Pro Gly Val Gln Asp Gln Pro Gly Pro His Ser Glu
145 150 155 160
Thr Pro Ile Ser

<210> 4251
<211> 1574
<212> DNA
<213> Homo sapiens

<400> 4251
nngggggggg gggggggggg gggttaagctc cttcagtagg gtactagggc accaaaaaaa
60
aaaaggggcg cgcggggggg gtccccaca caaaaaaagg gggggaaagg aattcgcccc
120
gggggggggc caggccctaa cccatttat ttcattccac agatgagggc aaccttaaga
180
gggaaggggg agatggcagg gccagcgggc gcaggaagtg ccttcccacc ccaggacct
240
gacacatctc gtctccctc ttttcgcac tgtgggcaca aagacacttt ttcttcgca
300
ggggcgggag cccctagttc caaactgag gacgcgtgac atggtgggca ccggaaggga
360
ggggacttct cctgcacccc aagaagtggg ggggagattg ctgcccctat agccatatct
420
cgcccccttc cactcacca cccccacccc aggtgctggg ggtcccttat ttttatgcaa
480

taactgagct tgatgggggt gggcaggggg ccagttgagc caatcaccag cctccatata
 540
 acagatcctg accctgaatc tcaggagctg cagatcgggg gcacctgccc tgacatcacc
 600
 aaacgctacc tgcgcctgac ctgtgcccc gaccgcgtcca ccgtgcgccc tgtggcagtt
 660
 ttgaaaaagt cgctgtgcat ggtcaagtgc cactggaaaag agaagcagga ctacgcgttt
 720
 gcctgcgagc agatgaagtc gatccggcag gatctgacgg tgcagggcat ccgcaccgag
 780
 ttcacgggtg aggtgtacga gacccatgcc cggatcgctt tggagaaggg tgaccatgaa
 840
 gagtttaacc agtgccagac gcagctcaag tcgctgtacg ccgagaactt gcctggcaat
 900
 gtgggcgagt ttactgccta ccgaatcctc tactacatct tcaccaagaa ctcgggagag
 960
 atcaccacgg agctggcata cctcacacga gaactgaagg cagatccttg cgtggcccac
 1020
 gccttggcat taaggacagc ctggggccctg ggcaactacc accgcttttt ccggtctctac
 1080
 tgccatgcac cctgcatgtc tggctacctc gtggacaagt ttgcagatcg ggagcgcaag
 1140
 gtcgcctca aggccatgat caaacgtat gtggtgcaa gctcccttct gcctttgctc
 1200
 ttcccatcct tccgcctcgc accgcccctc agaccagctc ctggccgcag gcctccccc
 1260
 gcccceaacc cttgtcctgg tccttgcttc cccatcatct ttctccattc agccctcccc
 1320
 tctccagttc ctcttgctct ccttgttggg cacctctgtg ttccgggtca ctctctccc
 1380
 tctcccact gttccagct cactgcctct ggggcctctt ctccaccca tctgtgtgtc
 1440
 tcttctctt gttctctct gcttggaccc cctagttcac tccttgcctt gggttctctc
 1500
 agaaccctga ggtctctgct ttctcagctt gtcgctgtgc toccaccata gagaccatct
 1560
 agacagcctc tggt
 1574

<210> 4252

<211> 352

<212> PRT

<213> Homo sapiens

<400> 4252

Met	Gly	Val	Gly	Arg	Gly	Pro	Val	Glu	Pro	Ile	Thr	Ser	Leu	His	Ile
1			5					10					15		
Thr	Asp	Pro	Asp	Pro	Glu	Ser	Gln	Glu	Leu	Gln	Ile	Gly	Gly	Thr	Cys
		20					25					30			
Pro	Asp	Ile	Thr	Lys	Arg	Tyr	Leu	Arg	Leu	Thr	Cys	Ala	Pro	Asp	Pro
		35				40					45				
Ser	Thr	Val	Arg	Pro	Val	Ala	Val	Leu	Lys	Lys	Ser	Leu	Cys	Met	Val
	50				55					60					
Lys	Cys	His	Trp	Lys	Glu	Lys	Gln	Asp	Tyr	Ala	Phe	Ala	Cys	Glu	Gln

```

65          70          75          80
Met Lys Ser Ile Arg Gln Asp Leu Thr Val Gln Gly Ile Arg Thr Glu
          85          90          95
Phe Thr Val Glu Val Tyr Glu Thr His Ala Arg Ile Ala Leu Glu Lys
          100          105          110
Gly Asp His Glu Glu Phe Asn Gln Cys Gln Thr Gln Leu Lys Ser Leu
          115          120          125
Tyr Ala Glu Asn Leu Pro Gly Asn Val Gly Glu Phe Thr Ala Tyr Arg
          130          135          140
Ile Leu Tyr Tyr Ile Phe Thr Lys Asn Ser Gly Asp Ile Thr Thr Glu
145          150          155          160
Leu Ala Tyr Leu Thr Arg Glu Leu Lys Ala Asp Pro Cys Val Ala His
          165          170          175
Ala Leu Ala Leu Arg Thr Ala Trp Ala Leu Gly Asn Tyr His Arg Phe
          180          185          190
Phe Arg Leu Tyr Cys His Ala Pro Cys Met Ser Gly Tyr Leu Val Asp
          195          200          205
Lys Phe Ala Asp Arg Glu Arg Lys Val Ala Leu Lys Ala Met Ile Lys
          210          215          220
Thr Tyr Val Val Pro Ser Ser Leu Leu Pro Leu Phe Pro Ser Phe
225          230          235          240
Arg Leu Ala Pro Pro Leu Arg Pro Ala Pro Gly Arg Arg Pro Pro Pro
          245          250          255
Ala Pro Asn Pro Cys Pro Gly Pro Cys Phe Pro Ile Ile Phe Leu His
          260          265          270
Ser Ala Leu Pro Ser Pro Val Pro Leu Ala Leu Leu Val Gly His Leu
          275          280          285
Cys Val Pro Gly His Ser Ser Pro Ser Pro His Cys Ser Gln Leu Thr
          290          295          300
Ala Ser Gly Ala Ser Ser Pro Pro His Leu Cys Val Ser Ser Ser Cys
305          310          315          320
Ser Leu Leu Pro Gly Pro Pro Ser Ser Leu Leu Ala Leu Gly Phe Leu
          325          330          335
Arg Thr Leu Arg Ser Leu Leu Ser Gln Leu Val Ala Val Leu Pro Pro
          340          345          350

```

<210> 4253

<211> 1287

<212> DNA

<213> Homo sapiens

<400> 4253

```

nntacggctg cgagaagaca cagactgtgc aacccccaaa gcaggtctcc tcaactcacg
60
ggatagatag aactatcggc cccaattcct cagccctacc tgcaaccacc gcttgccatg
120
gtttccttgt ggggtggaggg tactttcccg cccctgggtt tcggggttgc ccacgtgggt
180
tgctctggcc atggaatgaa gcagaaacga aagcctgccg gttctgagcc tatgccggaa
240
gacgccttgg gcggttccgc ggtccctgtg cggttccacc ttcaccaga aggaattctc
300
tggtgcagcc gctgcttctt cagccacggc ccaaaaggat cggagccccc tggccgatcc
360

```

gcaggtctgc agggagccac agagcgcagc ggccggccca gcgttcaagc ccaagcacag
 420
 gcctgcgaga accttggtcc agccaccgtt tgggatgggt gattaggact tgttgcaagt
 480
 gcggtagctc accaatccag tgcgtgcacc cgctccttta ttaggctata gagccagtgg
 540
 ctcccacagg gacctgatac aacagtgcgt taaataagga gcatattgag ctctcatgtc
 600
 gtaagccagt ggagaagtcc agggctagtg tgggggctcc ggcgggggct gtggccccc
 660
 tccgcatgga gcctcccat gggtcacagg tctcagtctt cggagccttc ggccctgcga
 720
 gcccgaaagg tccacagggc ggcgcagac cctctttcga acgccatcct ctaaagcggc
 780
 tggaacaagg ttcttgcaagg cctgtgcttg ggcttgaacg ctgggcccgg cgctgcgct
 840
 ctgtggctcc ctgtaggcct gcggatcggc cagggggctc cgctcctttt gggcgagggc
 900
 tgaagaagca gcggtgcac cagagaaggc cctctgggtg aagggtggag cgcacggggc
 960
 ccgcggaacc acctaaggcg acttcagacg tgggctcgga actggcagcc ttctgtttct
 1020
 gcttcattcc aaggccagag caagccacgt gggcaaacc aaagccaggg gacaggaaag
 1080
 taccctccac ccacaacgaa accatggcaa gcggtggatg caggtacggc caatagtcta
 1140
 tctatcccgg tgagtgagga gacctgcttt gaggggtgca caacctggat ctgcttttac
 1200
 agtgggtgtct gtcactatga agacccaca gggcgggcgc agaccttctt tcgaacgcca
 1260
 tcctctaaag cctcggctcc aaccggt
 1287

<210> 4254

<211> 114

<212> PRT

<213> Homo sapiens

<400> 4254

Met	Val	Ser	Leu	Trp	Val	Glu	Gly	Thr	Phe	Pro	Pro	Pro	Gly	Phe	Gly
1				5					10					15	
Leu	Ala	His	Val	Ala	Cys	Ser	Gly	His	Gly	Met	Lys	Gln	Lys	Arg	Lys
			20					25					30		
Pro	Ala	Ser	Ser	Glu	Pro	Met	Pro	Glu	Asp	Ala	Leu	Gly	Gly	Ser	Ala
			35					40					45		
Val	Pro	Val	Arg	Phe	His	Leu	His	Pro	Glu	Gly	Leu	Leu	Trp	Cys	Ser
			50			55					60				
Arg	Cys	Phe	Phe	Ser	His	Gly	Pro	Lys	Gly	Ser	Glu	Pro	Pro	Gly	Arg
65					70					75				80	
Ser	Ala	Gly	Leu	Gln	Gly	Ala	Thr	Glu	Arg	Ser	Gly	Arg	Pro	Ser	Val
				85					90					95	
Gln	Ala	Gln	Ala	Gln	Ala	Cys	Glu	Asn	Leu	Val	Pro	Ala	Thr	Val	Trp
			100					105					110		
Asp	Gly														

<210> 4255
<211> 2205
<212> DNA
<213> Homo sapiens

<400> 4255
cccgggcctc aaattctctg tcagaaatga agtaatggct accagccacg tcacagatga
60
atggatgaca caaatggaaa tgagtagcct gaacacttac attgtccgcc gttgcatagc
120
aacaccaat ggcgtcctca gaatttattc tgggtccctc atgggacaag cattggatcc
180
cactaggaaa caatggatc tccatgcagt agctaatacca gggttgattt ctttgactgg
240
tccttactta gatgttgag gagctggta tgttgtagaca atcagtcaca caattcatc
300
atccagtaca cagctgtctt ctgggcacac tgtggctgtg atgggcattg acttcacact
360
cagatacttc taaaaagttc tgatggacct attacctgtc tgtaaccaag atgggtggca
420
caaaataagg tgcttcataa tggaggacag gggttatctg gtggcgacc cgactctcat
480
cgaccccaaa ggacatgcac ctgtggagca gcagcacatc acccacaagg agccctggg
540
agcaaatgat atcctcaacc accccaactt tgtaaagaaa aacctgtgca acagcttcag
600
tgacagaacg gtccagaggt ttataaatt caacaccagc cttgcggggg atttgacgaa
660
ccttgatcat ggcagccact gttccaaata cagattagca aggatcccag gaaccaacgc
720
gtttgttggc attgtcaacg aaacctgcga ctctcttgcc ttctgtgctt gcagcatggg
780
ggaccgactc tgtctcaact gtcaccgaat ggaacaaaat gaatgtgaat gtccttgtga
840
gtgcccctta gaggtcaatg agtgactgg caacctcacc aatgcagaga accgaaaccc
900
cagctgcgag gtccaccagg agccggtgac atacacagct attgacctg gcctgcaaga
960
tgctcttcac cagtgtgtca acagcagggt cagtcagagg ctggaaagtg gggactgttt
1020
tggggtgctg gattgtgaat ggtgcatggg ggacagtgt ggaaagactc acctggacaa
1080
accctactgt gccccccaga aagaatgctt cgggggggatt gtgggagcca aaagtcctta
1140
cgttgatgac atgggagcaa taggtgatga ggtgatcaca ttaaaatgat taaaagcgcc
1200
cctgtgggtc ttgtggctgg agggatcatg ggtgcatca atggttttgg tcctggcggg
1260
gtatgcctac cgccaccaga ttcacgcgcg gagccatcag catatgtctc ctcttgctgc
1320
ccaagaaatg tcagtgcgta tgtccaacct ggagaatgac agagatgaaa gggacgacga
1380

cagccacgaa gacagaggca tcatacagcaa cactcgggtt atagctgcgg tcatacgaacg
 1440
 acatgcacac agtccagaaa gaaggcgccg ctactggggg cgatcaggaa cagaaagtga
 1500
 tcatgggttac agcaccatga gccacagga ggacagtga aatcctccat gcaacaatga
 1560
 ccccttggtca gccgggggtcg atgtgggaaa ccatgatgag gacttagacc tggatacccc
 1620
 ccctcagact gctgccctac taagtcacaa gttccaccac taccgggtcac accaccctac
 1680
 acttcatcat agccaccact tacaggcggc cgtcacggta cacactgtcg atgcagaatg
 1740
 ctaacaatct cctcacctcc acgccaagat gagatctggg agctacagaa tgttctggaa
 1800
 agaaaaagaa ccgggttaaa acccagagca agagacctcc cttgtgtttg tgctttgtgc
 1860
 agagttgttt gagtcatttc ctgcctgtcg acatgggttaa aaacgagaga aacaacaaca
 1920
 cagtcacatt tgtgaagatg tgaggctggt tctgaaatgg aggggaaata agcctgatga
 1980
 acagacctgc cataacacta atggaaggta acagaaggcg aacctccaaa cacagagacg
 2040
 gaacctgcaa gtgaagctga gccagaggaa tgttccaaag agccagaagc attcagctct
 2100
 ccttaactgg aagagagaaa aatctgctca cccagagact ggaatgtggc acatgcagat
 2160
 acaaatgtgt gcattgaaga ttctgctttg tttcttagcg gtacc
 2205

<210> 4256

<211> 384

<212> PRT

<213> Homo sapiens

<400> 4256

Met	Ala	Thr	Ser	His	Val	Thr	Asp	Glu	Trp	Met	Thr	Gln	Met	Glu	Met
1				5					10					15	
Ser	Ser	Leu	Asn	Thr	Tyr	Ile	Val	Arg	Arg	Cys	Ile	Ala	Thr	Pro	Asn
		20						25					30		
Gly	Val	Leu	Arg	Ile	Tyr	Ser	Gly	Ser	Leu	Met	Gly	Gln	Ala	Leu	Asp
		35					40					45			
Pro	Thr	Arg	Lys	Gln	Trp	Tyr	Leu	His	Ala	Val	Ala	Asn	Pro	Gly	Leu
		50				55					60				
Ile	Ser	Leu	Thr	Gly	Pro	Tyr	Leu	Asp	Val	Gly	Gly	Ala	Gly	Tyr	Val
65					70					75				80	
Val	Thr	Ile	Ser	His	Thr	Ile	His	Ser	Ser	Ser	Thr	Gln	Leu	Ser	Ser
				85				90					95		
Gly	His	Thr	Val	Ala	Val	Met	Gly	Ile	Asp	Phe	Thr	Leu	Arg	Tyr	Phe
		100					105					110			
Tyr	Lys	Val	Leu	Met	Asp	Leu	Leu	Pro	Val	Cys	Asn	Gln	Asp	Gly	Gly
		115					120					125			
Asn	Lys	Ile	Arg	Cys	Phe	Ile	Met	Glu	Asp	Arg	Gly	Tyr	Leu	Val	Ala
		130					135				140				
His	Pro	Thr	Leu	Ile	Asp	Pro	Lys	Gly	His	Ala	Pro	Val	Glu	Gln	Gln

```

145          150          155          160
His Ile Thr His Lys Glu Pro Leu Val Ala Asn Asp Ile Leu Asn His
          165          170          175
Pro Asn Phe Val Lys Lys Asn Leu Cys Asn Ser Phe Ser Asp Arg Thr
          180          185          190
Val Gln Arg Phe Tyr Lys Phe Asn Thr Ser Leu Ala Gly Asp Leu Thr
          195          200          205
Asn Leu Val His Gly Ser His Cys Ser Lys Tyr Arg Leu Ala Arg Ile
          210          215          220
Pro Gly Thr Asn Ala Phe Val Gly Ile Val Asn Glu Thr Cys Asp Ser
225          230          235          240
Leu Ala Phe Cys Ala Cys Ser Met Val Asp Arg Leu Cys Leu Asn Cys
          245          250          255
His Arg Met Glu Gln Asn Glu Cys Glu Cys Pro Cys Glu Cys Pro Leu
          260          265          270
Glu Val Asn Glu Cys Thr Gly Asn Leu Thr Asn Ala Glu Asn Arg Asn
          275          280          285
Pro Ser Cys Glu Val His Gln Glu Pro Val Thr Tyr Thr Ala Ile Asp
          290          295          300
Pro Gly Leu Gln Asp Ala Leu His Gln Cys Val Asn Ser Arg Cys Ser
305          310          315          320
Gln Arg Leu Glu Ser Gly Asp Cys Phe Gly Val Leu Asp Cys Glu Trp
          325          330          335
Cys Met Val Asp Ser Asp Gly Lys Thr His Leu Asp Lys Pro Tyr Cys
          340          345          350
Ala Pro Gln Lys Glu Cys Phe Gly Gly Ile Val Gly Ala Lys Ser Pro
          355          360          365
Tyr Val Asp Asp Met Gly Ala Ile Gly Asp Glu Val Ile Thr Leu Lys
          370          375          380

```

<210> 4257

<211> 1541

<212> DNA

<213> Homo sapiens

<400> 4257

```

agacgtcagt gccgtcgagg agctcttcag cgctgcgtac acgtgtaccc cagttcagtt
60
ttcttgacat cttcccaaaa gtcacctgca ggccctccaa agaggtgata gacatggagc
120
tgagtgcctt gaggagtgc acagagcctg ggatggatct ttgggagttc tgcagcgaaa
180
ctttccaaag accttaccag tatttaagac gattcaatcc aaaccagac cttaaccgg
240
ttcaagattc agaaagggtt tgccgaaggc ccccgagg aatgcctcca gcatttctg
300
tttactggg gggtataaaa cccatcctgg ccaaacctcc ggaactttgc tcggttctg
360
aattatcagc tcagagattg tgaggcctct ctcttctgca atccgagttt tattggcgac
420
acactgagg gcttcaagaa gttcgtggtg accttcata tctttatggc aagagatttt
480
gccacacat cactccacac ctctgaccaa agcccgggga agcacatggt caccatggat
540

```


ggggttaggg aagaagatct agcgcccttc tccctccgga agaggtggga gtcggagcct
 600
 caccatacgt ttttcttcaa tgacgaccac acaaccatga cattcatcgg cttccatctg
 660
 cagcccaaca tcaacggcag tgtcgatgcc atcagtcact tgactgggaa ggtcatcaag
 720
 agagacgtca tgaccaggga cctgtaccag ggctgtctgc tccagagggt gcccttcaat
 780
 gtcgactttg ataaactgcc cagacacaag aaacttgaga ggctctgcct gaccttaggg
 840
 atccccagg ccaccgaccc cgacaaaacg tatgagctca caaccgacaa tatgcttaaa
 900
 atccttgcca tcgagatgcg gttccggtgt gggatccccg ttatcatcat gggagaaact
 960
 ggctgtggga aaaccaggct tattaatttc cttagcgacc tgcggcgtgg tggtagcaat
 1020
 gctgacacca taaagctggt caaggtgcac ggaggaacaa ctgcagacat gatctactcc
 1080
 agagtcaggg aggctgaaaa tgtggccttc gccataaagg accaacatca gttggacacc
 1140
 atcttgtttt ttgatgaagc caacacaacg gaagctataa gctgtatcaa agaagtcctg
 1200
 tgtgatcata tgggtgatgg ccagcctctg gctgaggact ctggcctgca tattatagct
 1260
 gcctgcaatc catacccgga gaactctgag gagatgatct gccgtttgga gtcagctggg
 1320
 ttgggctaca gggtagtat ggaggagacg gccgacaggc tgggctccat tcctctgggg
 1380
 tacacgtgta cgcagcgtg aagagctcct cgacggcact gacgtcctcc tttccaggat
 1440
 ttcaacgata tacaatggc aggggttccg aagccacatt ttccattta tatccattaa
 1500
 gtattgtaaa atgaggagct tgaaaagaaa caccgaatt c
 1541

<210> 4258

<211> 314

<212> PRT

<213> Homo sapiens

<400> 4258

Met	Ile	Phe	Met	Ala	Arg	Asp	Phe	Ala	Thr	Pro	Ser	Leu	His	Thr	Ser
1			5						10					15	
Asp	Gln	Ser	Pro	Gly	Lys	His	Met	Val	Thr	Met	Asp	Gly	Val	Arg	Glu
		20						25					30		
Glu	Asp	Leu	Ala	Pro	Phe	Ser	Leu	Arg	Lys	Arg	Trp	Glu	Ser	Glu	Pro
		35					40					45			
His	Pro	Tyr	Val	Phe	Phe	Asn	Asp	Asp	His	Thr	Thr	Met	Thr	Phe	Ile
	50					55				60					
Gly	Phe	His	Leu	Gln	Pro	Asn	Ile	Asn	Gly	Ser	Val	Asp	Ala	Ile	Ser
65				70					75					80	
His	Leu	Thr	Gly	Lys	Val	Ile	Lys	Arg	Asp	Val	Met	Thr	Arg	Asp	Leu
			85					90					95		
Tyr	Gln	Gly	Leu	Leu	Leu	Gln	Arg	Val	Pro	Phe	Asn	Val	Asp	Phe	Asp

	100						105						110					
Lys	Leu	Pro	Arg	His	Lys	Lys	Leu	Glu	Arg	Leu	Cys	Leu	Thr	Leu	Gly			
	115						120						125					
Ile	Pro	Gln	Ala	Thr	Asp	Pro	Asp	Lys	Thr	Tyr	Glu	Leu	Thr	Thr	Asp			
	130						135						140					
Asn	Met	Leu	Lys	Ile	Leu	Ala	Ile	Glu	Met	Arg	Phe	Arg	Cys	Gly	Ile			
145					150						155						160	
Pro	Val	Ile	Ile	Met	Gly	Glu	Thr	Gly	Cys	Gly	Lys	Thr	Arg	Leu	Ile			
				165						170						175		
Lys	Phe	Leu	Ser	Asp	Leu	Arg	Arg	Gly	Gly	Thr	Asn	Ala	Asp	Thr	Ile			
	180						185						190					
Lys	Leu	Val	Lys	Val	His	Gly	Gly	Thr	Thr	Ala	Asp	Met	Ile	Tyr	Ser			
	195						200						205					
Arg	Val	Arg	Glu	Ala	Glu	Asn	Val	Ala	Phe	Ala	Asn	Lys	Asp	Gln	His			
	210						215						220					
Gln	Leu	Asp	Thr	Ile	Leu	Phe	Phe	Asp	Glu	Ala	Asn	Thr	Thr	Glu	Ala			
225				230						235						240		
Ile	Ser	Cys	Ile	Lys	Glu	Val	Leu	Cys	Asp	His	Met	Val	Asp	Gly	Gln			
				245						250						255		
Pro	Leu	Ala	Glu	Asp	Ser	Gly	Leu	His	Ile	Ile	Ala	Ala	Cys	Asn	Pro			
	260						265						270					
Tyr	Pro	Glu	Asn	Ser	Glu	Glu	Met	Ile	Cys	Arg	Leu	Glu	Ser	Ala	Gly			
	275						280						285					
Leu	Gly	Tyr	Arg	Val	Ser	Met	Glu	Glu	Thr	Ala	Asp	Arg	Leu	Gly	Ser			
	290						295						300					
Ile	Pro	Leu	Gly	Tyr	Thr	Cys	Thr	Gln	Arg									
305				310														

<210> 4259

<211> 377

<212> DNA

<213> Homo sapiens

<400> 4259

tctgcgacgg gacccggcgt gccatgtgt caggtgggcg aggactacgg ggagccggcg
60

cctgaggagc cgccccggc gccgcggccc agccgtgagc agaagtgtgt gaagtgcaag
120

gaagcgcagc ccgttgtggt gatacagacc ggagatgcct tctgcaggga ctgtttcaag
180

gccttctacg tccacaagtt cagagccatg ctgggcaaga accggctcat ctttccaggc
240

gagaaggtgc tcttggcgtg gtctgggggg ccttcgtcca gctccatggt ctggcaggtt
300

cttgagggcc tgagccaaga ttctgccaaa agactgcgct ttgtggcagg agtcattctt
360

gttgacgagg gagcagc
377

<210> 4260

<211> 125

<212> PRT

<213> Homo sapiens

<400> 4260

```

Ser Ala Thr Gly Pro Gly Val Pro Met Cys Gln Val Gly Glu Asp Tyr
 1           5           10           15
Gly Glu Pro Ala Pro Glu Glu Pro Pro Ala Pro Arg Pro Ser Arg
      20           25           30
Glu Gln Lys Cys Val Lys Cys Lys Glu Ala Gln Pro Val Val Val Ile
      35           40           45
Arg Ala Gly Asp Ala Phe Cys Arg Asp Cys Phe Lys Ala Phe Tyr Val
      50           55           60
His Lys Phe Arg Ala Met Leu Gly Lys Asn Arg Leu Ile Phe Pro Gly
      65           70           75           80
Glu Lys Val Leu Leu Ala Trp Ser Gly Gly Pro Ser Ser Ser Ser Met
      85           90           95
Val Trp Gln Val Leu Glu Gly Leu Ser Gln Asp Ser Ala Lys Arg Leu
      100          105          110
Arg Phe Val Ala Gly Val Ile Phe Val Asp Glu Gly Ala
      115          120          125

```

<210> 4261

<211> 592

<212> DNA

<213> Homo sapiens

<400> 4261

```

acgcgttact cctaccaggt tgtagcatgc atctttttga gagagcagct gggatcgagt
60
atactcttga cttaaatatg ttgttttata aagacaaatg gagaaatcaa tttttttccc
120
tgaattctta ggagcacttt agtgaataaa gaacctgaca gtatgctggc ccacatgttt
180
aaggacaaag gtgtctgggg aaataagcaa gatcatagag gagcttttctt aattgaccga
240
agtcctgagt acttcgaacc cattttgaac tacttgcgtc atggacagct cattgtaa
300
gatggcatta atttattggg tgtgttagaa gaagcaagat tttttggtat tgactcattg
360
attgaacacc tagaagtggc aataaagaat tctcaaccac cggaggatca ttcaccaata
420
tcccgaaagg aatttgtccg atttttgcta gcaactccaa ccaagtcaga actgcgatgc
480
cagggtttga acttcagtgg tgctgatctt tctcgtttgg accttcgata cattaacttc
540
aaaatggcca atttaagccg ctgtaatctt gcacatgcaa atctttgctg tg
592

```

<210> 4262

<211> 156

<212> PRT

<213> Homo sapiens

<400> 4262

```

Ile Leu Arg Ser Thr Leu Val Asn Lys Glu Pro Asp Ser Met Leu Ala
 1           5           10           15
His Met Phe Lys Asp Lys Gly Val Trp Gly Asn Lys Gln Asp His Arg

```

	20		25		30										
Gly	Ala	Phe	Leu	Ile	Asp	Arg	Ser	Pro	Glu	Tyr	Phe	Glu	Pro	Ile	Leu
	35		40		45										
Asn	Tyr	Leu	Arg	His	Gly	Gln	Leu	Ile	Val	Asn	Asp	Gly	Ile	Asn	Leu
	50		55		60										
Leu	Gly	Val	Leu	Glu	Glu	Ala	Arg	Phe	Phe	Gly	Ile	Asp	Ser	Leu	Ile
65			70		75									80	
Glu	His	Leu	Glu	Val	Ala	Ile	Lys	Asn	Ser	Gln	Pro	Pro	Glu	Asp	His
	85		90		95										
Ser	Pro	Ile	Ser	Arg	Lys	Glu	Phe	Val	Arg	Phe	Leu	Leu	Ala	Thr	Pro
	100		105		110										
Thr	Lys	Ser	Glu	Leu	Arg	Cys	Gln	Gly	Leu	Asn	Phe	Ser	Gly	Ala	Asp
	115		120		125										
Leu	Ser	Arg	Leu	Asp	Leu	Arg	Tyr	Ile	Asn	Phe	Lys	Met	Ala	Asn	Leu
	130		135		140										
Ser	Arg	Cys	Asn	Leu	Ala	His	Ala	Asn	Leu	Cys	Cys				
145			150		155										

<210> 4263
 <211> 7710
 <212> DNA
 <213> Homo sapiens

<400> 4263
 cagaggaatc tgttcctcaa ggcattcacg gacttcctgg ccttcattggt cctctttaac
 60
 tacatcatcc ctgtgtccat gtacgtcacg gtcgagatgc agaagttcct cggctcttac
 120
 ttcattcacct gggacgaaga catgtttgac gaggagactg gcgaggggcc tctggtgaac
 180
 acgtcggacc tcaatgaaga gctgggacag gtggagtaca tcttcacaga caagaccggc
 240
 accctcacgg aaaacaacat ggagttcaag gagggtctgca tcgaaggcca tgtctacgtg
 300
 cccacgtca tctgcaacgg gcaggtcctc ccagagtcgt caggaatcga catgattgac
 360
 tcgtcccccga gcgtcaacgg gaggagcgc gaggagctgt tttccgggc cctctgtctc
 420
 tgccacaccg tccaggtgaa agacgatgac agcgtagacg gcccaggaa atcgccggac
 480
 ggggggaaat cctgtgtgta catctcatcc tcgcccgcag aggtggcgct ggtcgaaggt
 540
 gtccagagac ttggctttac ctacctaaagg ctgaaggaca attacatgga gatattaaac
 600
 agggagaacc acatcgaaag gtttgaattg ctggaaattt tgagttttga ctcagtcaga
 660
 aggagaatga gtgtaattgt aaaatctgct acaggagaaa tttatctgtt ttgcaaagga
 720
 gcagattctt cgatattccc ccgagtgata gaaggcaaag ttgaccagat ccgagccaga
 780
 gtggagcgta acgcagtgga ggggctccga actttgtgtg ttgcttataa aaggctgatc
 840
 caagaagaat atgaaggcat ttgtaagctg ctgcaggctg ccaaagtggc ccttcaagat
 900

cgagagaaaa agttagcaga agcctatgag caaatagaga aagatcttac tctgcttggc
960
gctacagctg ttgaggaccg gctgcaggag aaagctgcag acaccatcga ggccctgcag
1020
aaggccggga tcaaagtctg ggttctcacg ggagacaaga tggagacggc cgcggccacg
1080
tgctacgcct gcaagctctt ccgcaggaac acgcagctgc tggagctgac caccaagagg
1140
atcgaggagc agagcctgca cgacgtcctg ttcgagctga gcaagacggc cctgcgccac
1200
agcgggagcc tgaccagaga caacctctcc ggactttcag cagatatgca ggactacggc
1260
ttaattatcg acggagctgc actgtctctg ataataagc ctcgagaaga cgggagttcc
1320
ggcaactaca gggagctctt cctggaaatc tgccggagct gcagcgcggc gctctgctgc
1380
cgcattggcg ccttgcagaa ggctcagatt gttaaattaa tcaaattttc aaaagagcac
1440
ccaatcacgt tagcaattgg cgatgggtgca aatgatgtca gcatgattct ggaagcgcac
1500
gtgggcatag gtgtcatcgg caaggaaggc cgccaggctg ccaggaacag cgactatgca
1560
atcccaaagt ttaagcattt gaagaagatg ctgcttgttc acgggcattt ttattacatt
1620
aggatctctg agctcgtgca gtacttcttc tataagaacg tctgcttcat cttccctcag
1680
tttttatacc agttcttctg tgggttttca caacagactg tgcacgacac cgcgtatctg
1740
accctctaca acatcagctt cacctccctc cccatcctcc tgtacagcct catggagcag
1800
catgttggca ttgacgtgct caagagagac ccgaccctgt acagggacgt cgccaagaat
1860
gccctgctgc gctggcgcgt gttcatctac tggacgctcc tgggactgtt tgacgcactg
1920
gtgttcttct ttggtgctta tttcgtgttt gaaaatacaa ctgtgacaag caacgggcag
1980
atatttgga actggacgtt tggaaacgctg gtattcacct tgatgggtgtt cacagttaca
2040
ctaaagcttg cattggacac aactactggt acttgatca accattttgt catctggggg
2100
tcgctgctgt tctacgttgt cttttcactt ctctggggag gagtgatctg gccgttcctc
2160
aactaccaga ggatgtacta cgtgttcatc cagatgctgt ccagcgggccc cgccctggctg
2220
gccatcgtgc tgetggtgac catcagcctc cttcccagc tctcaagaa agtctctgtc
2280
cggcagctgt ggccaacagc aacagagaga gtccagacta agagccagtg cttttctgtc
2340
gagcagtcaa ccatctttat gctttctcag acttccagca gcctgagttt ctgatggaac
2400
aagagcccag gctaccagag cacctgtccc tcggccgcct ggtacagctc cactctcag
2460
caggtgacac tcgcgccctg gaaggagaag gtgtccacgg agccccacc catcctcggc
2520

ggttcccatc accactgcag ttccatccca agtcacagct gccctaggtc ccgtgtggga
2580
atgctcgtgt gatggatggg cctaagcctg tggagactgt gcacgtgcct cttcctggcc
2640
cccagcaggc aaggaggggg gtcacaggcc ttgccctcga gcatggcacc ctggccgcct
2700
ggaccagca ctgtggttgt tgagccacac cagtggcctc tgggcattcg gctcaacgca
2760
ggagggacat tctgtggcc caccctgcgc gctgtcatgc agaggccatt cctccaggcc
2820
tgtgtcttca ccacctgcc gtcattggcc tttgctgtca ctgggagaga agagccgtcc
2880
agggacccat ggtggcccac atgtggatgc cacatgctgc tgtttcctgc ttgcccgcc
2940
accacccatg cctccatag ggtgaggtgg agccatggtg gtgcgtcctt tactcaaca
3000
cctccaatc cggatgctgt gggaagggcc gggtcactcg gataccatca tccctgcgga
3060
tgcaccgccc taccctgctc atctgggagt ggtttccctg cggttacgtc caagcccgcc
3120
tgccctgtgt gttggggctg gctgagtttc ggtctcccca tcaccggccg cctcgtggag
3180
aaggcagtgc cacgtgggag gacaaggcca cgccggcagc ttccagccct gccgcagaag
3240
tgccaggatg tccatcagcc actcgccagg gcacggagcc gtcagtccac tgttacggga
3300
gaatgttgat ttcgcggtg cgagggccgg gagacagata cttggctgtg atgagcagac
3360
atcctctgtc cccgtggagg ggtcaacacc aagtggtgt tcgtgcacca gaacctgtct
3420
cgggctgacg ggggtggcac acaggacagc ggtggatccc aacaggcagc accgcacctc
3480
cgcccgccct cgcactgca gctccgccc cggggctctg cgtctccacg tcccctcgtc
3540
ccatcccccac gtccctcat cccgtcacct cgtccccaca tccccttgcc ccgtcacctc
3600
gtcctcatgt ccccttgctc tgtaacctcg tccccacgtc ccctcgtctc atccccacgt
3660
cctctcgtcc ccttgctccc tccccacata cctcgtccc catgtcccca cgcagggctc
3720
tccttcgtct taggatctgt ccagcgctgc tctgggtggg ttagcaacct cagggtgtgt
3780
gtgataggaa gtcctgttg ttctccgtac tggcatttct atttctagaa ataattttg
3840
acatagcctt aatggctcct aaagaagaca tttcagtgtg agattcagac ttcagacgt
3900
gaaactgctg cctttcagga aagcaccacc aacgctggag gaggagccgg cctcacgcc
3960
cgccccgccc cacgtgtgg aacggggctc cggcaagtga aaccagagg gtgtttccga
4020
ggtgctcgac agtaggtatt tttggaagct cagatttcac catttgattg tataatcttt
4080
tacctataaa atatttattt gaagtagagg gtaaatacgc ggtaagaaca gtgaacacag
4140

tggttgggat aaaataaggt gacaaacatc acaccaaaga tgagggtagc gagcaactgg
4200
cttgagcaga cagaacgggg aagactccac tctgtcccga ggggccagcc gcaggcgccc
4260
ccaggggccac cctgccttga ggtccttggtg tggccgcccct ggcttggcag ccctgcccac
4320
gctgcccccg caaacaatgg tgtgtgcggt tttacagccc tttttaggaa cccaatatgg
4380
gcataaatgt aacacctgta gcgggggcag attctctgta tgttcagtta acaaattatt
4440
tgtaatgtat ttttttagaa atcttaaaat tgcctttgca ctgaagtatt ttcatactg
4500
tttatatctc ttttattcat ttatttaaca tactgtctaa ttttaaaaat aggtttttta
4560
agctttcatt ttaagttaa tgaaattttg gccactttac atttagattc tggtagaggt
4620
tttgactgaa tgtccaatc tctgatgaat gcgaattttc agatttgatt ttattctcta
4680
cacacacctc ttcttttctt ggtatttctg gtggcagtga ttagttgaac agcacattta
4740
aggcacgata atttgctaca ctttttcttt acaatttggt gcaatttcat ctgctttcta
4800
tgtttcattg ttaattgcca tccttcagcc ttaaaaatag aagattctca cgtgaagggt
4860
tagtaagttg ggtcccagct ctgcctgtgt ggagatagtc accatgtacc tctgacaaca
4920
agtttttagtg tgaaagtcac taaactttta cacactccca aacgtctttt taaaaattgc
4980
ttgggaaatt attaaatgaa tgtgcctgat gatttgaaat agacaagggg cagagataa
5040
aaaagaaaag gatgagaaga tcctcagtga atgacgttgc agggcttca tgcaattttc
5100
cacctcgcag tagttagtat ttacttgcct taaactaact ttgaagcaag taatgtcaac
5160
tttgagcact ttgttgagtt ttgaaaaatc ttatttggtg ctgcacaggt taataaatta
5220
tcaatttgta attcagcatg ttggtcagag acacggtcac tgattcacac ccagtccctg
5280
ccacagaccg tctcagacac gcacagtggg cctgctgcat gattcacacc cagtccctgc
5340
cacagaccgt ctcagacacg cacagtgggc ctgctgcatg attcacacc agtccctgcc
5400
acagaccgtc tcagacacgc acagtgggccc tgcctgcatg gtgttacctg gcttttggct
5460
ccacgctcac tcatagccat gtccacatgg gggcttgac acaggatcac tcacatatgt
5520
acatgtaccc accacaaacg tgcaagctcc tgcacacatg catgcacaca aacgtgtaca
5580
caagtgtgag ctctacacg catacacaca cacacgtgta catgcaccaa agcatgtgtg
5640
acctacagac atgcagaaca tgcacgtgta cacataccac agacacgcgt gtgcatgctc
5700
ctacacaata catatgcaca tatcatgaac agcataagtt cctacacacg gacgtgtgat
5760

acacacatgc atgtacaggt aagcacacat gtacaagctc ctacaggctt gctctcacac
5820
acgtgtatgc acagcagaga gacgtatgag cttctactgc acacatgcac acacacacgc
5880
acacgtacat tcactacaca cgtgcagcct cctgcacacg tgcacattca tgtgtacacc
5940
acaaatgagt tcccagacgt gtaaacaacac gtgcacacat cgtacacatg tgagctccca
6000
cacgtacaca cagatgcaca tggacacacc ccaaacacgc acaggctcct acacacatgc
6060
acacacgtgt acaccacaaa cgagctccca gacatgtaaa cacatgtctc ccacacgtga
6120
gctcccacac atgtacacat gcacatgtac gcaccacaaa cacatgcgca ggctcctgca
6180
ggcgtgaata cacacatgca cacacatata cacacacgtg ccacaaacaa gtgcacactg
6240
tcctgggtgc ctgcactgca tcctgcctcc ttgtgaggg gcccctgtga gaggcctctg
6300
gatgggcatg ggaagatggg ctccctggcc ccagcccat gcctccctgg gatgaagagt
6360
ccccctctg gcagaatgtc tgggctttgc agagcaggcc cggggggtga agtcgcagct
6420
tcacttacac cagctgctct gtgagcaagg cttggtgccc tggacaaggc ccttcccctt
6480
tagggaggtc cagcctcgca agctgaaacc tcccctcggc tcagccctat accaggcggc
6540
cacagcagga ctggccacac ccacgcgca cctcatccgt gcacgcgtcg gagcacggcc
6600
agccttccgc cacgagccag ctgggaaggg ccgcggccgc ctaaagcccc agtcaacca
6660
gcctgtgtct gagcagacag ggcgaaacaag caggccacac cgtctcgagg gaggaggcca
6720
gatgcggcca gcgtctccaa cagggtgacc atccgctcgg cttgctgagc gtttaacaa
6780
atgtttagac aggctgtggg gactccccctg agttgagcct tggccagggg tccggtgctg
6840
tcgcgggaaa cctccagcct tgttcttcaa accactcagc tcattgtgtt tgcactgact
6900
agtactgaat aatacaacca ctcttattta atgttagtat tatttatttg acaactcagt
6960
gtctaacagc ttgatatgca ggtccttgca tcctacattt ctttaggaag ttacccattt
7020
gtaactttaa aaacaggaaa aatatcagtt ggcaaatgca atctttttt tttttaagct
7080
aaagggtggg gaactggaat gaaaatcttt ctgatgttgt gtctataagc agccttgatg
7140
ggatatttta gaagtgtcat gaaagtgtga ttctactttt gcagaaaaat ctaaagatca
7200
atttatatag ctttattttt tactttatca aagtatacag aattttaata tgcatatatt
7260
gtgtctgact taaaattata atgtctgcgt caccatttaa aatgtctgtt cattatgtaa
7320
tgtaataaaa gaaggctctt aaaaatgtat ttaacatgaa tggatatccat agttgtcatc
7380

atcataaata ctggagttta ttttttaaatt attaaacata gtaggtgcat taacataaat
 7440
 cagtctccac acagtaacat ttaactgata attcattaat cagctttgaa aaattaaatt
 7500
 gtttaattaaa ccaatctaac atttcagtaa agttttatitt gtatgcttct gtttttaact
 7560
 tttatttctg tagataaact gactggataa tattatattg gacttttctc tagattatct
 7620
 aagcaggaga cctgaatctg cttgcaataa agaataaaaag tctgcttcag tttctttata
 7680
 aagaaactca aaaaaaaaaa aaaaaaaaaac
 7710

<210> 4264

<211> 797

<212> PRT

<213> Homo sapiens

<400> 4264

Gln	Arg	Asn	Leu	Phe	Leu	Lys	Ala	Phe	Thr	Asp	Phe	Leu	Ala	Phe	Met
1			5						10					15	
Val	Leu	Phe	Asn	Tyr	Ile	Ile	Pro	Val	Ser	Met	Tyr	Val	Thr	Val	Glu
			20					25					30		
Met	Gln	Lys	Phe	Leu	Gly	Ser	Tyr	Phe	Ile	Thr	Trp	Asp	Glu	Asp	Met
		35				40						45			
Phe	Asp	Glu	Glu	Thr	Gly	Glu	Gly	Pro	Leu	Val	Asn	Thr	Ser	Asp	Leu
	50				55					60					
Asn	Glu	Glu	Leu	Gly	Gln	Val	Glu	Tyr	Ile	Phe	Thr	Asp	Lys	Thr	Gly
65				70					75					80	
Thr	Leu	Thr	Glu	Asn	Asn	Met	Glu	Phe	Lys	Glu	Cys	Cys	Ile	Glu	Gly
			85					90						95	
His	Val	Tyr	Val	Pro	His	Val	Ile	Cys	Asn	Gly	Gln	Val	Leu	Pro	Glu
			100					105					110		
Ser	Ser	Gly	Ile	Asp	Met	Ile	Asp	Ser	Ser	Pro	Ser	Val	Asn	Gly	Arg
		115				120						125			
Glu	Arg	Glu	Glu	Leu	Phe	Phe	Arg	Ala	Leu	Cys	Leu	Cys	His	Thr	Val
		130			135					140					
Gln	Val	Lys	Asp	Asp	Asp	Ser	Val	Asp	Gly	Pro	Arg	Lys	Ser	Pro	Asp
145					150					155				160	
Gly	Gly	Lys	Ser	Cys	Val	Tyr	Ile	Ser	Ser	Ser	Pro	Asp	Glu	Val	Ala
			165					170					175		
Leu	Val	Glu	Gly	Val	Gln	Arg	Leu	Gly	Phe	Thr	Tyr	Leu	Arg	Leu	Lys
		180						185					190		
Asp	Asn	Tyr	Met	Glu	Ile	Leu	Asn	Arg	Glu	Asn	His	Ile	Glu	Arg	Phe
		195				200						205			
Glu	Leu	Leu	Glu	Ile	Leu	Ser	Phe	Asp	Ser	Val	Arg	Arg	Arg	Met	Ser
	210					215					220				
Val	Ile	Val	Lys	Ser	Ala	Thr	Gly	Glu	Ile	Tyr	Leu	Phe	Cys	Lys	Gly
225					230					235				240	
Ala	Asp	Ser	Ser	Ile	Phe	Pro	Arg	Val	Ile	Glu	Gly	Lys	Val	Asp	Gln
			245					250					255		
Ile	Arg	Ala	Arg	Val	Glu	Arg	Asn	Ala	Val	Glu	Gly	Leu	Arg	Thr	Leu
		260						265					270		
Cys	Val	Ala	Tyr	Lys	Arg	Leu	Ile	Gln	Glu	Glu	Tyr	Glu	Gly	Ile	Cys

275	280	285
Lys Leu Leu Gln Ala Ala	Lys Val Ala Leu Gln Asp	Arg Glu Lys Lys
290	295	300
Leu Ala Glu Ala Tyr Glu	Gln Ile Glu Lys Asp	Leu Thr Leu Leu Gly
305	310	315
Ala Thr Ala Val Glu Asp	Arg Leu Gln Glu Lys	Ala Ala Asp Thr Ile
325	330	335
Glu Ala Leu Gln Lys Ala	Gly Ile Lys Val Trp Val	Leu Thr Gly Asp
340	345	350
Lys Met Glu Thr Ala Ala	Ala Thr Cys Tyr Ala Cys	Lys Leu Phe Arg
355	360	365
Arg Asn Thr Gln Leu Leu	Glu Thr Thr Lys Arg	Ile Glu Glu Gln
370	375	380
Ser Leu His Asp Val Leu	Phe Glu Leu Ser Lys	Thr Val Leu Arg His
385	390	395
Ser Gly Ser Leu Thr Arg	Asp Asn Leu Ser Gly	Leu Ser Ala Asp Met
405	410	415
Gln Asp Tyr Gly Leu Ile	Ile Asp Gly Ala Ala	Leu Ser Leu Ile Met
420	425	430
Lys Pro Arg Glu Asp Gly	Ser Ser Gly Asn Tyr	Arg Glu Leu Phe Leu
435	440	445
Glu Ile Cys Arg Ser Cys	Ser Ala Val Leu Cys	Cys Arg Met Ala Pro
450	455	460
Leu Gln Lys Ala Gln Ile	Val Lys Leu Ile Lys	Phe Ser Lys Glu His
465	470	475
Pro Ile Thr Leu Ala Ile	Gly Asp Gly Ala Asn	Asp Val Ser Met Ile
485	490	495
Leu Glu Ala His Val Gly	Ile Gly Val Ile Gly	Lys Glu Gly Arg Gln
500	505	510
Ala Ala Arg Asn Ser Asp	Tyr Ala Ile Pro Lys	Phe Lys His Leu Lys
515	520	525
Lys Met Leu Leu Val His	Gly His Phe Tyr Tyr	Ile Arg Ile Ser Glu
530	535	540
Leu Val Gln Tyr Phe Phe	Tyr Lys Asn Val Cys	Phe Ile Phe Pro Gln
545	550	555
Phe Leu Tyr Gln Phe Phe	Cys Gly Phe Ser Gln	Gln Thr Val His Asp
565	570	575
Thr Ala Tyr Leu Thr Leu	Tyr Asn Ile Ser Phe	Thr Ser Leu Pro Ile
580	585	590
Leu Leu Tyr Ser Leu Met	Glu Gln His Val Gly	Ile Asp Val Leu Lys
595	600	605
Arg Asp Pro Thr Leu Tyr	Arg Asp Val Ala Lys	Asn Ala Leu Leu Arg
610	615	620
Trp Arg Val Phe Ile Tyr	Trp Thr Leu Leu Gly	Leu Phe Asp Ala Leu
625	630	635
Val Phe Phe Phe Gly Ala	Tyr Phe Val Phe Glu	Asn Thr Thr Val Thr
645	650	655
Ser Asn Gly Gln Ile Phe	Gly Asn Trp Thr Phe	Gly Thr Leu Val Phe
660	665	670
Thr Val Met Val Phe Thr	Val Thr Lys Leu Ala	Leu Asp Thr His
675	680	685
Tyr Trp Thr Trp Ile Asn	His Phe Val Ile Trp	Gly Ser Leu Leu Phe
690	695	700
Tyr Val Val Phe Ser Leu	Leu Trp Gly Gly Val	Ile Trp Pro Phe Leu

705		710		715		720									
Asn	Tyr	Gln	Arg	Met	Tyr	Tyr	Val	Phe	Ile	Gln	Met	Leu	Ser	Ser	Gly
		725						730					735		
Pro	Ala	Trp	Leu	Ala	Ile	Val	Leu	Leu	Val	Thr	Ile	Ser	Leu	Leu	Pro
		740						745					750		
Asp	Val	Leu	Lys	Lys	Val	Leu	Cys	Arg	Gln	Leu	Trp	Pro	Thr	Ala	Thr
		755					760					765			
Glu	Arg	Val	Gln	Thr	Lys	Ser	Gln	Cys	Leu	Ser	Val	Glu	Gln	Ser	Thr
		770					775				780				
Ile	Phe	Met	Leu	Ser	Gln	Thr	Ser	Ser	Ser	Leu	Ser	Phe			
785					790					795					

<210> 4265

<211> 2422

<212> DNA

<213> Homo sapiens

<400> 4265

```

nnaggcgggc ctcgcgggtc cgggagcgcg gcggagacga tgcctgagat cagagtcacg
60
cccttggggg cgggccagga cgtgggccga agctgcatcc tggctcccat tgcgggcaag
120
aatgtcatgc tggactgtgg aatgcacatg ggcttcaatg acgaccgacg cttccctgac
180
ttctcctaca tcaccagaa cggccgccta acagacttcc tggactgtgt gatcattagc
240
cacttccacc tggaccactg cggggcactc ccctacttca gcgagatggt gggctacgac
300
ggccccatct acatgactca ccccaaccag gccatctgcc ccatcttgct ggaggactac
360
cgcaagatcg ccgtagacaa gaaggcgag gccaaattct tcacctcca gatgatcaaa
420
gactgcatga agaaggtggt ggctgtccac ctccaccaga cggctccagg agatgatgag
480
ctggagatca aggcctacta tgcaggccac gtgctggggg cagccatggt ccagattaaa
540
gtgggctcag agtctgtggt ctacacgggt gattataaca tgacccaga ccgacactta
600
ggagctgcct ggattgacaa gtgccgcccc aacctgctca tcacagagtc cacgtacgcc
660
acgaccatcc gtgactccaa gcgctgccgg gagcgagact tcctgaagaa agtccacgag
720
accgtggagc gtggtgggaa ggtgctgata cctgtgttcg cgctgggccg cgcccaggag
780
ctctgcatcc tcctggagac cttctgggag cgcatgaacc tgaaggtgcc catctacttc
840
tccacggggc tgaccgagaa ggccaaccac tactacaagc tgttcatccc ctggaccaac
900
cagaagatcc gcaagacttt tgtgcagagg aacatgtttg agttcaagca catcaaggcc
960
ttcgaccggg cttttgctga caaccagga ccgatggttg tgtttgccac gccaggaatg
1020
ctgcacgctg ggcagtcctt gcagatcttc cggaaatggg ccggaacga aaagaacatg
1080

```

gtcatcatgc ccggctactg cgtgcagggc accgtcggcc acaagatcct cagcggggcag
1140
cggaagctcg agatggaggg gcggcaggtg ctggaggtca agatgcaggt ggagtacatg
1200
tcattcagcg cacacgcgga cgccaagggc atcatgcagc tgggtgggcca ggcagagccg
1260
gagagcgtgc tgctggtgca tggcgaggcc aagaagatgg agttcctgaa gcagaagatc
1320
gagcaggagc tccgggtcaa ctgctacatg ccggccaatg gcgagacggt gacgctgccc
1380
acaagcccca gcatccccgt aggcattctcg ctggggctgc tgaagcggga gatggcgag
1440
gggctgctcc ctgaggccaa gaagcctcgg ctctgcacg gcaccctgat catgaaggac
1500
agcaacttcc ggctggtgtc ctgagagcaa gccctcaaag agctgggtct ggctgagcac
1560
cagctgcgct tcacctgccg cgtgcacctg catgacacac gcaaggagca ggagacggca
1620
ttgcgcgtct acagccacct caagagcgtc ctgaaggacc actgtgtgca gcacctcccg
1680
gacggctctg tgactgtgga gtccgtcttc ctccaggccg ccgccccttc tgaggaccca
1740
ggcaccgaagg tgctgctggt ctcttgacc taccaggacg aggagctggg gagcttcttc
1800
acatctctgc tgaagaaggg cctccccag gcccccagct gaggcggga actcaccag
1860
ccgccacctc tgccctctcc cagctggaca gaccctgggc ctgcacttca ggactgtggg
1920
tgccctgggt gaacagaccc tgcaggtccc atccctgggg acagaggcct tgtgtcacct
1980
gcctgcccag gcagctgttt gcagctgaag aaacaaactg gtctccaggc tgtcttgct
2040
ttattcttg ttagggcagg tggctctaga cagcagtttc cagtaaaagc tgaacaaaag
2100
actacttggt actctcttct tgggtgtacat ggctgtgtcc tgcaactgtgc cccatcccgc
2160
ctgggacaga gacgggcatc caggggtgctg ggacccgggc agggaggcta ctgtggagac
2220
caggcagcag tgctgtgggc cccaagcagc tgtgactgcc ctggcttgac cagcacaggg
2280
ttgggcctgg tgtggcctaa ctttggttg agtgtccagg gtcacccgtg gctcccgaac
2340
tgtggcccct gcagggtgca ggaggcagca ccgaggttcc cgtacagcac tgacttgagg
2400
aataagccgt gggctggggc ta
2422

<210> 4266

<211> 613

<212> PRT

<213> Homo sapiens

<400> 4266

Xaa Gly Gly Pro Arg Gly Ser Gly Ser Ala Ala Glu Thr Met Pro Glu

1	5	10	15
Ile Arg Val Thr Pro Leu Gly Ala Gly Gln Asp Val Gly Arg Ser Cys			
20		25	30
Ile Leu Val Ser Ile Ala Gly Lys Asn Val Met Leu Asp Cys Gly Met			
35	40	45	
His Met Gly Phe Asn Asp Asp Arg Arg Phe Pro Asp Phe Ser Tyr Ile			
50	55	60	
Thr Gln Asn Gly Arg Leu Thr Asp Phe Leu Asp Cys Val Ile Ile Ser			
65	70	75	80
His Phe His Leu Asp His Cys Gly Ala Leu Pro Tyr Phe Ser Glu Met			
85	90	95	
Val Gly Tyr Asp Gly Pro Ile Tyr Met Thr His Pro Thr Gln Ala Ile			
100	105	110	
Cys Pro Ile Leu Leu Glu Asp Tyr Arg Lys Ile Ala Val Asp Lys Lys			
115	120	125	
Gly Glu Ala Asn Phe Phe Thr Ser Gln Met Ile Lys Asp Cys Met Lys			
130	135	140	
Lys Val Val Ala Val His Leu His Gln Thr Val Gln Val Asp Asp Glu			
145	150	155	160
Leu Glu Ile Lys Ala Tyr Tyr Ala Gly His Val Leu Gly Ala Ala Met			
165	170	175	
Phe Gln Ile Lys Val Gly Ser Glu Ser Val Val Tyr Thr Gly Asp Tyr			
180	185	190	
Asn Met Thr Pro Asp Arg His Leu Gly Ala Ala Trp Ile Asp Lys Cys			
195	200	205	
Arg Pro Asn Leu Leu Ile Thr Glu Ser Thr Tyr Ala Thr Thr Ile Arg			
210	215	220	
Asp Ser Lys Arg Cys Arg Glu Arg Asp Phe Leu Lys Lys Val His Glu			
225	230	235	240
Thr Val Glu Arg Gly Gly Lys Val Leu Ile Pro Val Phe Ala Leu Gly			
245	250	255	
Arg Ala Gln Glu Leu Cys Ile Leu Leu Glu Thr Phe Trp Glu Arg Met			
260	265	270	
Asn Leu Lys Val Pro Ile Tyr Phe Ser Thr Gly Leu Thr Glu Lys Ala			
275	280	285	
Asn His Tyr Tyr Lys Leu Phe Ile Pro Trp Thr Asn Gln Lys Ile Arg			
290	295	300	
Lys Thr Phe Val Gln Arg Asn Met Phe Glu Phe Lys His Ile Lys Ala			
305	310	315	320
Phe Asp Arg Ala Phe Ala Asp Asn Pro Gly Pro Met Val Val Phe Ala			
325	330	335	
Thr Pro Gly Met Leu His Ala Gly Gln Ser Leu Gln Ile Phe Arg Lys			
340	345	350	
Trp Ala Gly Asn Glu Lys Asn Met Val Ile Met Pro Gly Tyr Cys Val			
355	360	365	
Gln Gly Thr Val Gly His Lys Ile Leu Ser Gly Gln Arg Lys Leu Glu			
370	375	380	
Met Glu Gly Arg Gln Val Leu Glu Val Lys Met Gln Val Glu Tyr Met			
385	390	395	400
Ser Phe Ser Ala His Ala Asp Ala Lys Gly Ile Met Gln Leu Val Gly			
405	410	415	
Gln Ala Glu Pro Glu Ser Val Leu Leu Val His Gly Glu Ala Lys Lys			
420	425	430	
Met Glu Phe Leu Lys Gln Lys Ile Glu Gln Glu Leu Arg Val Asn Cys			

435 440 445
 Tyr Met Pro Ala Asn Gly Glu Thr Val Thr Leu Pro Thr Ser Pro Ser
 450 455 460
 Ile Pro Val Gly Ile Ser Leu Gly Leu Leu Lys Arg Glu Met Ala Gln
 465 470 475 480
 Gly Leu Leu Pro Glu Ala Lys Lys Pro Arg Leu Leu His Gly Thr Leu
 485 490 495
 Ile Met Lys Asp Ser Asn Phe Arg Leu Val Ser Ser Glu Gln Ala Leu
 500 505 510
 Lys Glu Leu Gly Leu Ala Glu His Gln Leu Arg Phe Thr Cys Arg Val
 515 520 525
 His Leu His Asp Thr Arg Lys Glu Gln Glu Thr Ala Leu Arg Val Tyr
 530 535 540
 Ser His Leu Lys Ser Val Leu Lys Asp His Cys Val Gln His Leu Pro
 545 550 555 560
 Asp Gly Ser Val Thr Val Glu Ser Val Leu Leu Gln Ala Ala Ala Pro
 565 570 575
 Ser Glu Asp Pro Gly Thr Lys Val Leu Leu Val Ser Trp Thr Tyr Gln
 580 585 590
 Asp Glu Glu Leu Gly Ser Phe Leu Thr Ser Leu Leu Lys Lys Gly Leu
 595 600 605
 Pro Gln Ala Pro Ser
 610

<210> 4267

<211> 2230

<212> DNA

<213> Homo sapiens

<400> 4267

gccggcgcgcc cgggtgggca ctggggggacg cgggcgcgctc aggtgaagac tgggggctgc
 60
 aggcgcgcta ggagaactat gccatttttg ggtcaggact ggagatctcc tggatggagt
 120
 tggattaaga cagaagatgg ctggaagaga tgtgaatctt gtagtcagaa acttgaaaga
 180
 gagaataacc attgtaacat cagtcacagc attatcttaa atagtgaaga tggagaaata
 240
 ctcaataatg aagagcatga atatgcatcc aaaaaaagga aaaaggacca ttttagaaat
 300
 gacacaaata ctcaaagttt ttatcatgaa aaatggatct atgtccataa agaaagcaca
 360
 aaagaaaggc atggctattg caccctggga gaaaccttta atcggttaga cttctcaagt
 420
 gcaattcaag atatccgaag gttcaattat gtggtcaaac tgttgagct aattgcaaaa
 480
 tcccagttaa cttcattgag tggcgtggca cagaagaatt acttcaacat tttggataaa
 540
 atcggtcaaa aggttcttga tgaccaccac aatcctcgct taatcaaaga tcttctgcaa
 600
 gacctagct ctaccctcnt gcattcttat tagaggagta gggaagtctg tattagtggg
 660
 aaacatcaat atttgattt gccgattaga aactattctc gcctggcaac aacagctaca
 720

ggatcttcag atgactaagc aagtaacaat ggcctcacc tcaagtacct tcctctgcac
780
atgtgaaca acatcctata ccggttctca gacggatggg acatcatcac cttaggccag
840
gtgaccccc cgttgatat gcttagtgaa gacagacagc tgtggaagaa gctttgtcag
900
taccattttg ctgaaaagca gttttgtaga catttgatcc ttccagaaaa aggtcatatt
960
gaatggaagt tgatgtactt tgcacttcag aaacattacc cagcgaagga gcagtacgga
1020
gacacactgc atttctgtcg gcactgcagc attctctttt ggaaggactc aggacacccc
1080
tgacgcggc cgaccctgac agctgcttca cgcgtgtctc cgcagcactt catcgacctc
1140
ttcaagtttt aagggtgcc cctgccatcc ctattggaga ttgtgaatcc tgctgtctgt
1200
gcagggtcga tagtgagtgt tctgtgaggt ggggtggagac tcctcggaag cccctgcttc
1260
cagaaagcct gggaagaact gcccttctgc aaagggggga ctgcatgggt gcattttcat
1320
cactgaaagt cagaggccaa ggaaatcatt tctacttctt taaaaactcc ttctaagcat
1380
attaaaatgt gaaattttgc gtactctctc tctctatata tatagttcaa aaatacttta
1440
ggtggtcagc tccacattct ttgttgacgt gacactaacg gccataata tgcttcttaa
1500
ttatcaaatt atagtttccc aattgggaaa ctaattgggg gtgggttaca aaacatttga
1560
tccttgtaaa tacattgtac agaataatta ttttttctca aaatgcattt taactactac
1620
attggctgtg ccaaagagt cctctttgaa tagaaagtga acccagggca atgacagcca
1680
ttcttgtctt agggattatg gatcggggta tgaattgtgc acacgcagcc caacaacggg
1740
cagtgggtctc tgtggctcct aggcattccag cacaggttct ggcagggcac ccctgctggg
1800
gttgggggct ggtctgtgca taatcctgga ctgtgatggg aacagcccag tgcagtctaa
1860
acttcaattg tgttgaaact actttaatag acaaagtaat aaatcatgtt tatctattga
1920
tttaaaactc atcagttttg catcctactg agaaatgtta gtgattttga tacttaaatc
1980
cttaaaagat tgcttcgttt ttaaaataac gcatgtccat ttagaaaaat tagaaaatca
2040
gtcccaccac ccaaagatta ttgtgcatgc tgaaaagagt atgaaaaatc ccctcagcag
2100
gcataggata gaaacgtatt gttgtatatt tccatttttg aatagggtca aggagcctaa
2160
gcaaatcatt tctacttttt cctttaagca taataataaa agtatacttt tatggcggtta
2220
taaaacaaca
2230

<210> 4268

ccccaccagc aggcaacgcc ggacgaccga agccaggaca gcacagccgt agcactctca
4500
gactctagct caacgcagga cttctttaat gagccccacca gcttactgga aggctccagg
4560
aaatcctaca cagagaagag gctgcccatt ctgagttccc aagcaggagc gacgggtaaa
4620
gatcttcagg gggccacaga agaaagagga aaaaacgagg agtcattgga gagtacagaa
4680
ggcttcgggg ctgcagagca aggtgtccag aagcctgctg cagaaacccc agcctctgct
4740
tgcattccctg gcaagccctc agcatccaca cccaccctgt gggatgggaa gaagagaggg
4800
gacctcccag gggagccagt ggccttcccc caggggctgc cggctggtgc tgaggagcag
4860
cggcagtttc tcacagagca gtgcatcgcc tccttcggcc tgtgcctgag ccgcttcccc
4920
cagcactata agagtctcta ccgtctggcc ttcctctaca cctacagcaa gacccaccgg
4980
aacctccagt gggcccgca cgtgttgcta ggcagcagta tcccgtggca acaactgcag
5040
cacatgccgg cacaggggct cttctgcgag aggaacaaga ccaatttctt caacggcatc
5100
tggcggatcc ccgtggacga gattgaccgg ccgggcagct ttgcctggca catgaaccgc
5160
tccatcgtgc tgctgctcaa ggtgctggcc cagctgcggg accacagcac cctgctgaag
5220
gtgtcctcca tgcttcagcg gaccccagac cagggcaaga agtatctgcg agatgctgac
5280
cgccagggtcc tggcgcagcg ggccttcac ctcactgtga aggtgctcga agacacgctg
5340
agcgagctcg cagaggggtc agaacgcca gggccaagg tctgtggcct ccccgagacc
5400
aggatgacca ccgatgtctc acacaaggcc agtcctgagg atggccagga gggcctcccc
5460
cagccaaga agccccctct ggctgatggc tcagggccag ggcccagacc aggaggcaaa
5520
gtgggcctcc tcaaccaccg gcctgtggcc atggatgcag gagacagtgc agaccaaagc
5580
ggggagcggg aggataaaga gagcccacgg gcagggccca ctgagcccat ggacacgagt
5640
gaggccactg tttgccactc agacttgag cggacaccac ccctgctgcc aggtcgcccc
5700
gcaagggacc ggggccccga gagccggccc actgagctgt ccctggagga gctgagcatc
5760
agtggccggc agcagccac cccgctcacc ccagcccagc cagccccgc ccccgcccc
5820
gccaccacca cagggaccag ggcagggggc cccccgagg agccgctctc cggctcagc
5880
cgcaagagga agctcctgga ggacacagag tcaggcaaga cacttctgtt ggatgcctac
5940
cgtgtgtggc agcagggcca gaagggtgtg gcctatgacc tgggccgtgt ggagaggatc
6000
atgtcggaga cctacatgct catcaagcag gtggatgagg aggtgcgct ggagcaggct
6060

gtgaagttct gccaggtcca tcttggggct gccgcccaga gacaggcctc gggggacacc
6120
cccaccactc caaagcaccc caaagacagc cgagagaact tctttcctgt gacagtgggtg
6180
cccacagccc ctgaccctgt gccagctgac tctgtccagc ggcccagtga tgctcacacc
6240
aagcctcgcc ctgcactagc tgccgccaca actattatca cctgccctcc gtcagcatca
6300
gcttcacccc tggaccagtc caaggaccct gggcctcccc ggccacacag gcctgaagct
6360
acccccagca tggcctctct gggcccagag ggagaagagc tggcgagagt ggcagagggc
6420
accagcttcc cgcctcagga gccacggcac agtccgcagg tgaagatggc cccacaagt
6480
tccccggcag agccacactg ctggccggca gaggctgccc tgggcacagg cgctgagccc
6540
acctgcagcc agggaggggaa actgaggcct gagccgagaa gggatgggga ggctcaggag
6600
gctgcgagtg agactcagcc cctgagctct cccccaacag ctgccagctc caaggccccc
6660
agcagtggga gtgcccagcc accagagggg caccagggca agcctgagcc cagccgggct
6720
aagtcccgcc ccctgccc aa catgccc aa ctggatcatcc cctccgccc caccaagtcc
6780
ccccctgaga tcaccgtcac gccaccacc ccaacctgc tctccccaa aggcagcatc
6840
tcggaggaga ccaagcagaa gctgaagtca gccatccttt ctgccagtc tgctgccaac
6900
gtgaggaagg agagcctatg ccagccagcc ctggaggtcc tggagacatc cagccaggag
6960
tcctcgctgg agagcgagac agacgaggac gacgactaca tggacatttg aggggccact
7020
gcagccccac cgccacgccc caggggacca gccaggcctg gaatgcccc tgggcaggac
7080
cctgggcagg accagaggcc cacatggatg cactcccca cacagcccc aggcctgccc
7140
agcccacctc ctcatggcat cctccctgta cccaggtcag gctgtccaca ccacatggga
7200
gccagagga ggaggggccc gccttagcca tgtgaagggt gattgggtgc catctgcacg
7260
ccaggcggca tccttttcta tgaagtgttg actttgtaaa tctgccaca cccagctggc
7320
catatccacc cctcgacgcc gggatgagcc ggctctgcct gtgtcacagt ggaggggtcc
7380
tttagggcca ggctcacc cc caccctttt tttggttgc tttctaataa agatggaaca
7440
gttaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaa
7484

<210> 3998

<211> 2220

<212> PRT

<213> Homo sapiens

<400> 3998

```

Met Ile Arg Ile Ala Ala Leu Asn Ala Ser Ser Thr Ile Glu Asp Asp
 1           5           10           15
His Glu Gly Ser Phe Lys Ser His Lys Thr Gln Thr Lys Glu Ala Gln
      20           25           30
Glu Ala Glu Ala Phe Ala Leu Tyr His Lys Ala Leu Asp Leu Gln Lys
      35           40           45
His Asp Arg Phe Glu Glu Ser Ala Lys Ala Tyr His Glu Leu Leu Glu
      50           55           60
Ala Ser Leu Leu Arg Glu Ala Val Ser Ser Gly Asp Glu Lys Glu Gly
      65           70           75           80
Leu Lys His Pro Gly Leu Ile Leu Lys Tyr Ser Thr Tyr Lys Asn Leu
      85           90           95
Ala Gln Leu Ala Ala Gln Arg Glu Asp Leu Glu Thr Ala Met Glu Phe
      100          105          110
Tyr Leu Glu Ala Val Met Leu Asp Ser Thr Asp Val Asn Leu Trp Tyr
      115          120          125
Lys Ile Gly His Val Ala Leu Arg Leu Ile Arg Ile Pro Leu Ala Arg
      130          135          140
His Ala Phe Glu Glu Gly Leu Arg Cys Asn Pro Asp His Trp Pro Cys
      145          150          155          160
Leu Asp Asn Leu Ile Thr Val Leu Tyr Thr Leu Ser Asp Tyr Thr Thr
      165          170          175
Cys Leu Tyr Phe Ile Cys Lys Ala Leu Glu Lys Asp Cys Arg Tyr Ser
      180          185          190
Lys Gly Leu Val Leu Lys Glu Lys Ile Phe Glu Glu Gln Pro Cys Leu
      195          200          205
Arg Lys Asp Ser Leu Arg Met Phe Leu Lys Cys Asp Met Ser Ile His
      210          215          220
Asp Val Ser Val Ser Ala Ala Glu Thr Gln Ala Ile Val Asp Glu Ala
      225          230          235          240
Leu Gly Leu Arg Lys Lys Arg Gln Ala Leu Ile Val Arg Glu Lys Glu
      245          250          255
Pro Asp Leu Lys Leu Val Gln Pro Ile Pro Phe Phe Thr Trp Lys Cys
      260          265          270
Leu Gly Glu Ser Leu Leu Ala Met Tyr Asn His Leu Thr Thr Cys Glu
      275          280          285
Pro Pro Arg Pro Ser Leu Gly Lys Arg Ile Asp Leu Ser Asp Tyr Gln
      290          295          300
Asp Pro Ser Gln Pro Leu Glu Ser Ser Met Val Val Thr Pro Val Asn
      305          310          315          320
Val Ile Gln Pro Ser Thr Val Ser Thr Asn Pro Ala Val Ala Val Ala
      325          330          335
Glu Pro Val Val Ser Tyr Thr Ser Val Ala Thr Thr Ser Phe Pro Leu
      340          345          350
His Ser Pro Gly Leu Leu Glu Thr Gly Ala Pro Val Gly Asp Ile Ser
      355          360          365
Gly Gly Asp Lys Ser Lys Lys Gly Val Lys Arg Lys Lys Ile Ser Glu
      370          375          380
Glu Ser Gly Glu Thr Ala Lys Arg Arg Ser Ala Arg Val Arg Asn Thr
      385          390          395          400
Lys Cys Lys Lys Glu Glu Lys Val Asp Phe Gln Glu Leu Leu Met Lys
      405          410          415
Phe Leu Pro Ser Arg Leu Arg Lys Leu Asp Pro Glu Glu Glu Asp Asp

```

420								425				430			
Ser	Phe	Asn	Asn	Tyr	Glu	Val	Gln	Ser	Glu	Ala	Lys	Leu	Glu	Ser	Phe
435				440				445							
Pro	Ser	Ile	Gly	Pro	Gln	Arg	Leu	Ser	Phe	Asp	Ser	Ala	Thr	Phe	Met
450				455				460							
Glu	Ser	Glu	Lys	Gln	Asp	Val	His	Glu	Phe	Leu	Leu	Glu	Asn	Leu	Thr
465				470				475				480			
Asn	Gly	Gly	Ile	Leu	Glu	Leu	Met	Met	Arg	Tyr	Leu	Lys	Ala	Met	Gly
485				490				495							
His	Lys	Phe	Leu	Val	Arg	Trp	Pro	Pro	Gly	Leu	Ala	Glu	Val	Val	Leu
500				505				510							
Ser	Val	Tyr	His	Ser	Trp	Arg	Arg	His	Ser	Thr	Ser	Leu	Pro	Asn	Pro
515				520				525							
Leu	Leu	Arg	Asp	Cys	Ser	Asn	Lys	His	Ile	Lys	Asp	Met	Met	Leu	Met
530				535				540							
Ser	Leu	Ser	Cys	Met	Glu	Leu	Gln	Leu	Asp	Gln	Trp	Leu	Leu	Thr	Lys
545				550				555				560			
Gly	Arg	Ser	Ser	Ala	Val	Ser	Pro	Arg	Asn	Cys	Pro	Ala	Gly	Met	Val
565				570				575							
Asn	Gly	Arg	Phe	Gly	Pro	Asp	Phe	Pro	Gly	Thr	His	Cys	Leu	Gly	Asp
580				585				590							
Leu	Leu	Gln	Leu	Ser	Phe	Ala	Ser	Ser	Gln	Arg	Asp	Leu	Phe	Glu	Asp
595				600				605							
Gly	Trp	Leu	Glu	Phe	Val	Val	Arg	Val	Tyr	Trp	Leu	Lys	Ala	Arg	Phe
610				615				620							
Leu	Ala	Leu	Gln	Gly	Asp	Met	Glu	Gln	Ala	Leu	Glu	Asn	Tyr	Asp	Ile
625				630				635				640			
Cys	Thr	Glu	Met	Leu	Gln	Ser	Ser	Thr	Ala	Ile	Gln	Val	Glu	Ala	Gly
645				650				655							
Ala	Glu	Arg	Arg	Asp	Ile	Val	Ile	Arg	Leu	Pro	Asn	Leu	His	Asn	Asp
660				665				670							
Ser	Val	Val	Ser	Leu	Glu	Glu	Ile	Asp	Lys	Asn	Leu	Lys	Ser	Leu	Glu
675				680				685							
Arg	Cys	Gln	Ser	Leu	Glu	Glu	Ile	Gln	Arg	Leu	Tyr	Glu	Ala	Gly	Asp
690				695				700							
Tyr	Lys	Ala	Val	Val	His	Leu	Leu	Arg	Pro	Thr	Leu	Cys	Thr	Ser	Gly
705				710				715				720			
Phe	Asp	Arg	Ala	Lys	His	Leu	Glu	Phe	Met	Thr	Ser	Ile	Pro	Glu	Arg
725				730				735							
Pro	Ala	Gln	Leu	Leu	Leu	Leu	Gln	Asp	Ser	Leu	Leu	Arg	Leu	Lys	Asp
740				745				750							
Tyr	Arg	Gln	Cys	Phe	Glu	Cys	Ser	Asp	Val	Ala	Leu	Asn	Glu	Ala	Val
755				760				765							
Gln	Gln	Met	Val	Asn	Ser	Gly	Glu	Ala	Ala	Ala	Lys	Glu	Glu	Trp	Val
770				775				780							
Ala	Thr	Val	Thr	Gln	Leu	Leu	Met	Gly	Ile	Glu	Gln	Ala	Leu	Ser	Ala
785				790				795				800			
Asp	Ser	Ser	Gly	Ser	Ile	Leu	Lys	Val	Ser	Ser	Ser	Thr	Thr	Gly	Leu
805				810				815							
Val	Arg	Leu	Thr	Asn	Asn	Leu	Ile	Gln	Val	Ile	Asp	Cys	Ser	Met	Ala
820				825											

850		855		860	
Leu Cys His Gln Gln Gln	Leu Gln Asn Pro Ala Glu Glu Gly Met Ser				
865		870		875	880
Glu Thr Pro Met Leu Pro Ser Ser Leu Met Leu Leu Asn Thr Ala His					
		885		890	895
Glu Tyr Leu Gly Arg Arg Ser Trp Cys Cys Asn Ser Asp Gly Ala Leu					
		900		905	910
Leu Arg Phe Tyr Val Arg Val Leu Gln Lys Glu Leu Ala Ala Ser Thr					
		915		920	925
Ser Glu Asp Thr His Pro Tyr Lys Glu Glu Leu Glu Thr Ala Leu Glu					
		930		935	940
Gln Cys Phe Tyr Cys Leu Tyr Ser Phe Pro Ser Lys Lys Ser Lys Ala					
945		950		955	960
Arg Tyr Leu Glu Glu His Ser Ala Gln Gln Val Asp Leu Ile Trp Glu					
		965		970	975
Asp Ala Leu Phe Met Phe Glu Tyr Phe Lys Pro Lys Thr Leu Pro Glu					
		980		985	990
Phe Asp Ser Tyr Lys Thr Ser Thr Val Ser Ala Asp Leu Ala Asn Leu					
		995		1000	1005
Leu Lys Arg Ile Ala Thr Ile Val Pro Arg Thr Glu Arg Pro Ala Leu					
		1010		1015	1020
Ser Leu Asp Lys Val Ser Ala Tyr Ile Glu Gly Thr Ser Thr Glu Val					
1025		1030		1035	1040
Pro Cys Leu Pro Glu Gly Ala Asp Pro Ser Pro Pro Val Val Asn Glu					
		1045		1050	1055
Leu Tyr Tyr Leu Leu Ala Asp Tyr His Phe Lys Asn Lys Glu Gln Ser					
		1060		1065	1070
Lys Ala Ile Lys Phe Tyr Met His Asp Ile Cys Ile Cys Pro Asn Arg					
		1075		1080	1085
Phe Asp Ser Trp Ala Gly Met Ala Leu Ala Arg Ala Ser Arg Ile Gln					
		1090		1095	1100
Asp Lys Leu Asn Ser Asn Glu Leu Lys Ser Asp Gly Pro Ile Trp Lys					
1105		1110		1115	1120
His Ala Thr Pro Val Leu Asn Cys Phe Arg Arg Ala Leu Glu Ile Asp					
		1125		1130	1135
Ser Ser Asn Leu Ser Leu Trp Ile Glu Tyr Gly Thr Met Ser Tyr Ala					
		1140		1145	1150
Leu His Ser Phe Ala Ser Arg Gln Leu Lys Gln Trp Arg Gly Glu Leu					
		1155		1160	1165
Pro Pro Glu Leu Val Gln Gln Met Glu Gly Arg Arg Asp Ser Met Leu					
		1170		1175	1180
Glu Thr Ala Lys His Cys Phe Thr Ser Ala Ala Arg Cys Glu Gly Asp					
1185		1190		1195	1200
Gly Asp Glu Glu Glu Trp Leu Ile His Tyr Met Leu Gly Lys Val Ala					
		1205		1210	1215
Glu Lys Gln Gln Gln Pro Pro Thr Val Tyr Leu Leu His Tyr Arg Gln					
		1220		1225	1230
Ala Gly His Tyr Leu His Glu Glu Ala Ala Arg Tyr Pro Lys Lys Ile					
		1235		1240	1245
His Tyr His Asn Pro Pro Glu Leu Ala Met Glu Ala Leu Glu Val Tyr					
		1250		1255	1260
Phe Arg Leu His Ala Ser Ile Leu Lys Leu Leu Gly Lys Pro Asp Ser					
1265		1270		1275	1280
Gly Val Gly Ala Glu Val Leu Val Asn Phe Met Lys Glu Ala Ala Glu					

	1285		1290		1295
Gly	Pro	Phe	Ala	Arg	Gly
	1300		1305		1310
Lys	Glu	Lys	Ala	Cys	Leu
	1315		1320		1325
Thr	Leu	Pro	Gly	Pro	Gly
	1330		1335		1340
Leu	Thr	Ser	Pro	Tyr	Thr
	1345		1350		1355
Lys	Cys	Lys	Lys	Pro	His
	1365		1370		1375
Asp	Ser	Thr	Ala	Val	Ala
	1380		1385		1390
Phe	Asn	Glu	Pro	Thr	Ser
	1395		1400		1405
Glu	Lys	Arg	Leu	Pro	Ile
	1410		1415		1420
Asp	Leu	Gln	Gly	Ala	Thr
	1425		1430		1435
Glu	Ser	Thr	Glu	Gly	Phe
	1445		1450		1455
Ala	Ala	Glu	Thr	Pro	Ala
	1460		1465		1470
Ser	Thr	Pro	Thr	Leu	Trp
	1475		1480		1485
Glu	Pro	Val	Ala	Phe	Pro
	1490		1495		1500
Arg	Gln	Phe	Leu	Thr	Glu
	1505		1510		1515
Ser	Arg	Phe	Pro	Gln	His
	1525		1530		1535
Tyr	Thr	Tyr	Ser	Lys	Thr
	1540		1545		1550
Leu	Leu	Gly	Ser	Ser	Ile
	1555		1560		1565
Gln	Gly	Leu	Phe	Cys	Glu
	1570		1575		1580
Trp	Arg	Ile	Pro	Val	Asp
	1585		1590		1595
His	Met	Asn	Arg	Ser	Ile
	1605		1610		1615
Arg	Asp	His	Ser	Thr	Leu
	1620		1625		1630
Pro	Asp	Gln	Gly	Lys	Lys
	1635		1640		1645
Ala	Gln	Arg	Ala	Phe	Ile
	1650		1655		1660
Ser	Glu	Leu	Ala	Glu	Gly
	1665		1670		1675
Leu	Pro	Gly	Ala	Arg	Met
	1685		1690		1695
Glu	Asp	Gly	Gln	Glu	Gly
	1700		1705		1710
Asp	Gly	Ser	Gly	Pro	Gly

1715	1720	1725
Asn His Arg Pro Val Ala Met Asp Ala Gly Asp Ser Ala Asp Gln Ser		
1730	1735	1740
Gly Glu Arg Lys Asp Lys Glu Ser Pro Arg Ala Gly Pro Thr Glu Pro		
1745	1750	1755
Met Asp Thr Ser Glu Ala Thr Val Cys His Ser Asp Leu Glu Arg Thr		
1765	1770	1775
Pro Pro Leu Leu Pro Gly Arg Pro Ala Arg Asp Arg Gly Pro Glu Ser		
1780	1785	1790
Arg Pro Thr Glu Leu Ser Leu Glu Glu Leu Ser Ile Ser Ala Arg Gln		
1795	1800	1805
Gln Pro Thr Pro Leu Thr Pro Ala Gln Pro Ala Pro Ala Pro		
1810	1815	1820
Ala Thr Thr Thr Gly Thr Arg Ala Gly Gly His Pro Glu Glu Pro Leu		
1825	1830	1835
Ser Arg Leu Ser Arg Lys Arg Lys Leu Leu Glu Asp Thr Glu Ser Gly		
1845	1850	1855
Lys Thr Leu Leu Leu Asp Ala Tyr Arg Val Trp Gln Gln Gly Gln Lys		
1860	1865	1870
Gly Val Ala Tyr Asp Leu Gly Arg Val Glu Arg Ile Met Ser Glu Thr		
1875	1880	1885
Tyr Met Leu Ile Lys Gln Val Asp Glu Glu Ala Ala Leu Glu Gln Ala		
1890	1895	1900
Val Lys Phe Cys Gln Val His Leu Gly Ala Ala Ala Gln Arg Gln Ala		
1905	1910	1915
Ser Gly Asp Thr Pro Thr Thr Pro Lys His Pro Lys Asp Ser Arg Glu		
1925	1930	1935
Asn Phe Phe Pro Val Thr Val Val Pro Thr Ala Pro Asp Pro Val Pro		
1940	1945	1950
Ala Asp Ser Val Gln Arg Pro Ser Asp Ala His Thr Lys Pro Arg Pro		
1955	1960	1965
Ala Leu Ala Ala Ala Thr Thr Ile Ile Thr Cys Pro Pro Ser Ala Ser		
1970	1975	1980
Ala Ser Thr Leu Asp Gln Ser Lys Asp Pro Gly Pro Pro Arg Pro His		
1985	1990	1995
Arg Pro Glu Ala Thr Pro Ser Met Ala Ser Leu Gly Pro Glu Gly Glu		
2005	2010	2015
Glu Leu Ala Arg Val Ala Glu Gly Thr Ser Phe Pro Pro Gln Glu Pro		
2020	2025	2030
Arg His Ser Pro Gln Val Lys Met Ala Pro Thr Ser Ser Pro Ala Glu		
2035	2040	2045
Pro His Cys Trp Pro Ala Glu Ala Ala Leu Gly Thr Gly Ala Glu Pro		
2050	2055	2060
Thr Cys Ser Gln Glu Gly Lys Leu Arg Pro Glu Pro Arg Arg Asp Gly		
2065	2070	2075
Glu Ala Gln Glu Ala Ala Ser Glu Thr Gln Pro Leu Ser Ser Pro Pro		
2085	2090	2095
Thr Ala Ala Ser Ser Lys Ala Pro Ser Ser Gly Ser Ala Gln Pro Pro		
2100	2105	2110
Glu Gly His Pro Gly Lys Pro Glu Pro Ser Arg Ala Lys Ser Arg Pro		
2115	2120	2125
Leu Pro Asn Met Pro Lys Leu Val Ile Pro Ser Ala Ala Thr Lys Phe		
2130	2135	2140
Pro Pro Glu Ile Thr Val Thr Pro Pro Thr Pro Thr Leu Leu Ser Pro		

2145		2150		2155		2160
Lys Gly Ser Ile	Ser Glu Glu Thr	Lys Gln Lys Leu	Lys Ser Ala Ile			
	2165		2170		2175	
Leu Ser Ala Gln	Ser Ala Ala Asn Val Arg	Lys Glu Ser Leu Cys Gln				
	2180		2185		2190	
Pro Ala Leu Glu Val	Leu Glu Thr Ser Ser Gln Glu	Ser Ser Leu Glu				
	2195		2200		2205	
Ser Glu Thr Asp Glu Asp	Asp Asp Tyr Met Asp Ile					
2210	2215		2220			

<210> 3999

<211> 2546

<212> DNA

<213> Homo sapiens

<400> 3999

```

ncctaggtga aatgtgtcat ttaaaaaaaaaa tttcacttgc cattctaaag tttttctggt
60
gagagttttg tgtttttcat ttacgcaaac acatctccac ataagtaggg aaaaaagtc
120
ttcttgagta tattagtgtc ttcagccttt gtattgggac agtagcgtcc attaatTTTT
180
atgtgaagtg aaattaggta tcgggtcata atcagtctgt gatgtcttca cagctttcac
240
atttaccttg tgataatcaa gtgtgttttt cctcaggtgt tagccagaga agaggggtca
300
gggactcttc cctggtcgta gctttcatct gtaagcttca cttaaagaga ggaaacttac
360
ttggtgctca aagcaaagga gatgggcctc ccagttggga cagctgccat cgctcccatc
420
attgctgctg tcaaggacgg gaaaagcatc actcatgaag gaagagagat tttggctgaa
480
gagctgtgta ctctccaga tcctggtgct gcttttggg tggtagaatg tccagatgaa
540
agcttcattc aacctatctg tgagaatgcc acctttcaga ggtaccaagg aaaggcagat
600
gccccgtgg ccttggtggt tcacatggcc ccagcatctg tgcttgtgga cagcaggtac
660
cagcagtgga tggagaggtt tgggcctgac acccagcact tggtcctgaa tgagaactgt
720
gcctcagttc acaaccttcg cagccacaag attcaaacc agctcaacct catccaccg
780
gacatcttcc cctgctcac cagtttccgc tgtaagaagg agggccccc cctcagtgtg
840
cccatgggtc agggatgaa cctcctcaag taccagctcc gtcccaggag ggagtggcag
900
agggatgcca ttattacttg caatcctgag gaattcatag ttgaggcgct gcagcttccc
960
aacttccagc agagcgtgca ggagtacagg aggagtgcgc aggacggccc agccccagca
1020
gagaaaagaa gtcagtaccc agaaatcatc ttccttgga cagggctctgc catcccgatg
1080
aagattcgaa atgtcagtgc cacacttgtc aacataagcc ccgacacgtc tctgctactg
1140

```

gactgtggtg agggcacatt tgggcagctg tgccgtcatt acggagacca ggtggacagg
1200
gtcctgggca ccctggctgc tgtgtttgtg tcccacctgc acgcagatca ccacacgggc
1260
ttgccaagta tcttgctgca gagagaacgc gccttggcat ctttgggaaa gccgcttcac
1320
cctttgctgg tggttgcccc caaccagctc aaagcctggc tccagcagta ccacaaccag
1380
tgccaggagg tcctgcacca catcagtatg attcctgcca aatgccttca ggaaggggct
1440
gagatctcca gtctgcagt ggaaagattg atcagttcgc tgttgcaac atgtgatttg
1500
gaagagtttc agacctgtct ggtgcggcac tgcaagcatg cgtttggtg tgcgtggtg
1560
cacacctctg gctggaaagt ggtctattcc ggggacacca tgccctgcga ggctctggtc
1620
cggatgggga aagatgccac cctcctgata catgaagcca ccctggaaga tggtttgaa
1680
gaggaagcag tggaaaagac acacagcaca acgtcccaag ccatcagcgt ggggatgcgg
1740
atgaacgcgg agttcattat gctgaaccac ttcagccagc gctatgccaa ggtccccctc
1800
ttcagcccca acttcagcga gaaagtggga gttgcctttg accacatgaa ggtctgcttt
1860
ggagactttc caacaatgcc caagctgatt cccccactg aaagccctgt ttgctggcga
1920
catcgaggag atggaggagc gcaggagaga gcgggagctg cggcagggtg gggcgccct
1980
cctgtccagg gagctggcag gcggcctgga ggatggggag cctcagcaga agcgggcccc
2040
cacagaggag ccacaggcca agaaggtcag agcccagtga agatctggga gacctgaac
2100
tcagaaggct gtgtgtcttc tgccccacgc acgcaccctg atctgccctc cttgctggta
2160
gaagctgaag agcacggtcc cccaggaggc agctcaggat aggtggtatg gagctgtgcc
2220
gaggcttggg ctcccacata agcactagtc tatagatgcc tcttaggact ggtgcctggc
2280
acagccgcgg gccaggaggc tgccacacgg aagcaagcag atgaactaat ttcatttcaa
2340
ggcagttttt aaagaagtca tggaaacaga cggcggcacc tttcctctaa tccagcaaaa
2400
tgattccctg cacaccagag acaagcagag taacaggatc agtgggtcta agtgtccgag
2460
acttaacgaa aatagtattt cagctgcaat aaagattgag tttgcaaaaa aaaaaaaaaa
2520
aaaaaaaaaa aaaaaaaaaa aaaaaa
2546

<210> 4000

<211> 606

<212> PRT

<213> Homo sapiens

<400> 4000

```

Met Gly Leu Pro Val Gly Thr Ala Ala Ile Ala Pro Ile Ile Ala Ala
 1          5          10          15
Val Lys Asp Gly Lys Ser Ile Thr His Glu Gly Arg Glu Ile Leu Ala
 20          25          30
Glu Glu Leu Cys Thr Pro Pro Asp Pro Gly Ala Ala Phe Val Val Val
 35          40          45
Glu Cys Pro Asp Glu Ser Phe Ile Gln Pro Ile Cys Glu Asn Ala Thr
 50          55          60
Phe Gln Arg Tyr Gln Gly Lys Ala Asp Ala Pro Val Ala Leu Val Val
 65          70          75          80
His Met Ala Pro Ala Ser Val Leu Val Asp Ser Arg Tyr Gln Gln Trp
 85          90          95
Met Glu Arg Phe Gly Pro Asp Thr Gln His Leu Val Leu Asn Glu Asn
100          105          110
Cys Ala Ser Val His Asn Leu Arg Ser His Lys Ile Gln Thr Gln Leu
115          120          125
Asn Leu Ile His Pro Asp Ile Phe Pro Leu Leu Thr Ser Phe Arg Cys
130          135          140
Lys Lys Glu Gly Pro Thr Leu Ser Val Pro Met Val Gln Gly Glu Cys
145          150          155          160
Leu Leu Lys Tyr Gln Leu Arg Pro Arg Arg Glu Trp Gln Arg Asp Ala
165          170          175
Ile Ile Thr Cys Asn Pro Glu Glu Phe Ile Val Glu Ala Leu Gln Leu
180          185          190
Pro Asn Phe Gln Gln Ser Val Gln Glu Tyr Arg Arg Ser Ala Gln Asp
195          200          205
Gly Pro Ala Pro Ala Glu Lys Arg Ser Gln Tyr Pro Glu Ile Ile Phe
210          215          220
Leu Gly Thr Gly Ser Ala Ile Pro Met Lys Ile Arg Asn Val Ser Ala
225          230          235          240
Thr Leu Val Asn Ile Ser Pro Asp Thr Ser Leu Leu Asp Cys Gly
245          250          255
Glu Gly Thr Phe Gly Gln Leu Cys Arg His Tyr Gly Asp Gln Val Asp
260          265          270
Arg Val Leu Gly Thr Leu Ala Ala Val Phe Val Ser His Leu His Ala
275          280          285
Asp His His Thr Gly Leu Pro Ser Ile Leu Leu Gln Arg Glu Arg Ala
290          295          300
Leu Ala Ser Leu Gly Lys Pro Leu His Pro Leu Leu Val Val Ala Pro
305          310          315          320
Asn Gln Leu Lys Ala Trp Leu Gln Gln Tyr His Asn Gln Cys Gln Glu
325          330          335
Val Leu His His Ile Ser Met Ile Pro Ala Lys Cys Leu Gln Glu Gly
340          345          350
Ala Glu Ile Ser Ser Pro Ala Val Glu Arg Leu Ile Ser Ser Leu Leu
355          360          365
Arg Thr Cys Asp Leu Glu Glu Phe Gln Thr Cys Leu Val Arg His Cys
370          375          380
Lys His Ala Phe Gly Cys Ala Leu Val His Thr Ser Gly Trp Lys Val
385          390          395          400
Val Tyr Ser Gly Asp Thr Met Pro Cys Glu Ala Leu Val Arg Met Gly
405          410          415
Lys Asp Ala Thr Leu Leu Ile His Glu Ala Thr Leu Glu Asp Gly Leu

```

```
<210> 4001
<211> 1251
<212> DNA
<213> Homo sapiens
```

```

<400> 4001
gaaagccctg cttctcaggc tgggactcag caccctctcg cccagcccac tgccattcc
60
cagagctctc cagagttcaa gggctcctg gcctccctct cagacagctt gggggtgtct
120
gtcatggcca ccgaccagga ctccactacc accagcagca cggaggagga gctggagcag
180
ttcagcagcc ccagcgtgaa gaagaagccc tccatgatcc tgggcaaggc tcggcaccgg
240
ctgagctttg ccagtttcag cagcatgttc cacgctttcc tctccaacaa ccgcaagctg
300
tacaagaagg tgggtggagct ggcgcaggac aagggctcgt actttggcag cctggtgcag
360
gactacaagg tgtacagcct ggagatgatg gcgcgccaga cctccagcac ggagatgctg
420
caggagattc gcaccatgat gaccagctc aagagctacc tgctgcagag caccgagctc
480
aaggccctgg tggaccccg cctgcactcc gaggaggagc tcgaagcaat tgtagagtct
540
gccttgtaca aatgtgtcct gaagcccctg aaggaagcca tcaactcatg cctgcatacg
600
atccacagca aggatggttc gctgcagcag ctcaaggaga accagttagt gatcctggcc
660
accaccacca ctgacctagg tgtgaccacc agcgtgccgg aggtgcccat gatggagaag
720

```

atcctgcaga agttcaccag catgcacaag gcctactcac ctgagaagaa gatctccatc
 780
 ctgctcaaga cctgcaaact catctacgac tccatggccc tcggcaaccc agggaagccc
 840
 tatggggcgg atgacttcct gcctgtgctc atgtatgtgc tggcccgcag caacctcacg
 900
 gagatgcttc tcaatgtgga gtacatgatg gagctcatgg accccgccct gcagctgggg
 960
 gagggttcct actatctgac caccacctac ggggccctgg agcacatcaa gagctacgac
 1020
 aagatcacgg tgacccggca gctgagtgtg gaggtgcagg actccatcca ccgctgggag
 1080
 cgccggcgta ctctcaacaa ggcccgggcc tcccgtcct ccgtacagga cttcatctgc
 1140
 gtgtcgtaacc tggagcccga gcagcaggcg cggacgctgg cgtcgcgggc ggacaccag
 1200
 gcccaggcgc tgtgcgcgca gtgcgcggag aagttcgcgg tggagcggcc g
 1251

<210> 4002

<211> 417

<212> PRT

<213> Homo sapiens

<400> 4002

Glu	Ser	Pro	Ala	Ser	Gln	Ala	Gly	Thr	Gln	His	Pro	Pro	Ala	Gln	Pro
1				5					10					15	
Thr	Ala	His	Ser	Gln	Ser	Ser	Pro	Glu	Phe	Lys	Gly	Ser	Leu	Ala	Ser
			20					25					30		
Leu	Ser	Asp	Ser	Leu	Gly	Val	Ser	Val	Met	Ala	Thr	Asp	Gln	Asp	Ser
		35				40						45			
Tyr	Ser	Thr	Ser	Ser	Thr	Glu	Glu	Glu	Leu	Glu	Gln	Phe	Ser	Ser	Pro
	50					55					60				
Ser	Val	Lys	Lys	Lys	Pro	Ser	Met	Ile	Leu	Gly	Lys	Ala	Arg	His	Arg
65					70				75					80	
Leu	Ser	Phe	Ala	Ser	Phe	Ser	Ser	Met	Phe	His	Ala	Phe	Leu	Ser	Asn
			85						90				95		
Asn	Arg	Lys	Leu	Tyr	Lys	Lys	Val	Val	Glu	Leu	Ala	Gln	Asp	Lys	Gly
		100						105					110		
Ser	Tyr	Phe	Gly	Ser	Leu	Val	Gln	Asp	Tyr	Lys	Val	Tyr	Ser	Leu	Glu
		115					120						125		
Met	Met	Ala	Arg	Gln	Thr	Ser	Ser	Thr	Glu	Met	Leu	Gln	Glu	Ile	Arg
	130					135					140				
Thr	Met	Met	Thr	Gln	Leu	Lys	Ser	Tyr	Leu	Leu	Gln	Ser	Thr	Glu	Leu
145					150					155				160	
Lys	Ala	Leu	Val	Asp	Pro	Ala	Leu	His	Ser	Glu	Glu	Glu	Leu	Glu	Ala
			165						170					175	
Ile	Val	Glu	Ser	Ala	Leu	Tyr	Lys	Cys	Val	Leu	Lys	Pro	Leu	Lys	Glu
		180						185					190		
Ala	Ile	Asn	Ser	Cys	Leu	His	Gln	Ile	His	Ser	Lys	Asp	Gly	Ser	Leu
		195					200					205			
Gln	Gln	Leu	Lys	Glu	Asn	Gln	Leu	Val	Ile	Leu	Ala	Thr	Thr	Thr	Thr
	210					215					220				
Asp	Leu	Gly	Val	Thr	Thr	Ser	Val	Pro	Glu	Val	Pro	Met	Met	Glu	Lys

<210> 4004

<211> 160
 <212> PRT
 <213> Homo sapiens

<400> 4004
 Xaa Arg Leu Arg Arg Gly Leu Arg Gly Ala Phe Leu Met Ala Arg Gln
 1 5 10 15
 Arg Pro Glu Leu Leu Cys Gly Ala Val Ala Leu Gly Cys Ala Leu Leu
 20 25 30
 Leu Ala Leu Lys Phe Thr Cys Ser Arg Ala Lys Asp Val Ile Ile Pro
 35 40 45
 Ala Lys Pro Pro Val Ser Phe Phe Ser Leu Arg Ser Pro Val Leu Asp
 50 55 60
 Leu Phe Gln Gly Gln Leu Asp Tyr Ala Glu Tyr Val Arg Arg Asp Ser
 65 70 75 80
 Glu Val Val Leu Leu Phe Phe Tyr Ala Pro Trp Cys Gly Gln Ser Ile
 85 90 95
 Ala Ala Arg Ala Glu Ile Glu Gln Ala Ala Ser Arg Leu Ser Asp Gln
 100 105 110
 Val Leu Phe Val Ala Ile Asn Cys Trp Trp Asn Gln Gly Lys Cys Arg
 115 120 125
 Lys Gln Lys His Phe Phe Tyr Phe Pro Val Ile Tyr Leu Tyr His Arg
 130 135 140
 Ser Phe Gly Pro Ile Glu Tyr Lys Gly Pro His Glu Cys Cys Leu His
 145 150 155 160

<210> 4005
 <211> 666
 <212> DNA
 <213> Homo sapiens

<400> 4005
 ggtaccttgg aggatggtgc caagcagcac aatctaacag cagtcaatgt ccgaaacatc
 60
 cttcatgaag taatcacaaa tgaacacgtg gtagctatga tgaaagcagc catcagtgag
 120
 acggaagata tgccaatgtt tgagcctaaa atgacacgct cttaaactgaa ggaagtagtg
 180
 gaaaaaggaa tggtaattcc aacatggaat atttcaccaa ttaagaaggc caatgaaatt
 240
 aagcctcctc agtttgtgga tatccacctt gaagaagatg attcctcaga tgaagaatac
 300
 cagccggatg atgaagaaga agatgaaact gctgaagaga gcttattgga aagtgatgtt
 360
 gaaagcactg cttcatctcc acgtggggca aagaaatcca gattgaggca gtcttctgag
 420
 atgactgaaa cagatgagga gagtggcata ttatcagagg ctgagaaagt caccacacca
 480
 gccatcaggc acatcagtgc tgaggtagtg cccatggggc ccccgcccc tccaaagccg
 540
 aaacagacca gagatagtag tttcatggag aagttacatg cggtagatga ggagctggct
 600
 tccagtccag tctgcatgga ttctttccag cccatggatg acagtctcat tgcatttcga
 660

acgcgt
666

<210> 4006
<211> 222
<212> PRT
<213> Homo sapiens

<400> 4006
Gly Thr Leu Glu Asp Gly Ala Lys Gln His Asn Leu Thr Ala Val Asn
1 5 10 15
Val Arg Asn Ile Leu His Glu Val Ile Thr Asn Glu His Val Val Ala
20 25 30
Met Met Lys Ala Ala Ile Ser Glu Thr Glu Asp Met Pro Met Phe Glu
35 40 45
Pro Lys Met Thr Arg Ser Lys Leu Lys Glu Val Val Glu Lys Gly Met
50 55 60
Val Ile Pro Thr Trp Asn Ile Ser Pro Ile Lys Lys Ala Asn Glu Ile
65 70 75 80
Lys Pro Pro Gln Phe Val Asp Ile His Leu Glu Glu Asp Asp Ser Ser
85 90 95
Asp Glu Glu Tyr Gln Pro Asp Asp Glu Glu Glu Asp Glu Thr Ala Glu
100 105 110
Glu Ser Leu Leu Glu Ser Asp Val Glu Ser Thr Ala Ser Ser Pro Arg
115 120 125
Gly Ala Lys Lys Ser Arg Leu Arg Gln Ser Ser Glu Met Thr Glu Thr
130 135 140
Asp Glu Glu Ser Gly Ile Leu Ser Glu Ala Glu Lys Val Thr Thr Pro
145 150 155 160
Ala Ile Arg His Ile Ser Ala Glu Val Val Pro Met Gly Pro Pro Pro
165 170 175
Pro Pro Lys Pro Lys Gln Thr Arg Asp Ser Thr Phe Met Glu Lys Leu
180 185 190
His Ala Val Asp Glu Glu Leu Ala Ser Ser Pro Val Cys Met Asp Ser
195 200 205
Phe Gln Pro Met Asp Asp Ser Leu Ile Ala Phe Arg Thr Arg
210 215 220

<210> 4007
<211> 2313
<212> DNA
<213> Homo sapiens

<400> 4007
ngaattcttc cttggcttcg agtctctcag ccggccgcgc tctccgatgc ccagccctcc
60
tggaaccacc tcgcctgtga cgtaggtgga gcgcgcactg cctccggggcc cgtctttctc
120
aattgggacc ggaaaacgtt gtcgctcatc ctatgacgcg aaagtaaccg agactatcag
180
gatccggaga cggaaatgtc cgaaggccgc agtacttgac cctgtattttt gggagtcgaa
240
cggagaatgg aaactgaaag tggaaatcag gaaaaggtaa tggaagaaga aagcactgaa
300

aagaaaaaag aagttgaaaa aaagaaacgg tcacgagtta aacagggtgct tgcagatatt
360
gctaagcaag tggacttctg gtttggggat gcaaactctc acaaggatag atttcttcga
420
gaacagatag aaaaatctag agatggatat gttgatatat cactacttgt gtcttttaac
480
aaaatgaaaa aattgactac tgatgggaag ttaattgcca gagcattgag aagttcagct
540
gttgtagagc ttgatttggga aggcaccaga atccggagga aaaaacctct gggggaaaga
600
ccaaaggatg aggatgaacg cacagtgtat gtggagttac ttcccaaaaa tgттаатсac
660
agctggattg aaagagtatt tgggaaatgt ggcaatgttg tttatataag tataccacat
720
tataagtcta ctggagatcc aaagggattt gcgtttgtgg aatttgaaac aaaagaacaa
780
gcagcaaaag caattgagtt tcttaacaac ccaccagaag aagcaccaag aaaacctggc
840
atatttccta aaacagtga aaataagccc attccagcct taagagttgt ggaagagaag
900
aaaaagaaaa agaagaagaa aggccgaatg aaaaaggaag acaatatcca agccaaagaa
960
gaaaacatgg acacaagcaa caccagcatc agtaaaatga aaagatccag acccacatct
1020
gagggtctctg acattgagtc cactgaaccc caaaagcagt gctcaaagaa aaagaaaaaa
1080
cgggacagag ttgaagcatc tagcttacct gaagtcagaa cagggaagag gaagagaagc
1140
agctctgaag atgcagaatc cctagctccc cgatcaaaag taaagaaaat tattcagaaa
1200
gacatcatta aggaagcatc agaagcttcc aaggaaaata gagatataga aatctctact
1260
gaagaggaaa aggatactgg agatctaaaa gatagctctc tcttgaaaac aaaaaggaaa
1320
cataagaaaa aacataaaga gagacataaa atgggagaag aagttatacc attaagagtg
1380
ctatcaaaga gcgaatggat ggatttgaaa aaagagtatt tagcgctaca aaaagctagc
1440
atggcttctt taaaaaaac aatatcccaa ataaaatcag agtcagaaat ggaaacagac
1500
agtggagtac ctcaaacac tggaatgaaa aatgaaaaaa cagccaacag ggaagagtgt
1560
cgcacccagg agaaagttaa tgcaacagga ccacagttcg tgagtggagt gattgtgaag
1620
atcattagca cagagcctct acctggcagg aaacaagtcc gggatacttt ggсagcaatc
1680
tcagaagttc tttatgttga tttgctagaa ggggatacag aatgccatgc tagatttaaa
1740
actcctgagg atgctcaagc agtaataaat gcctatacag aaattaacaa gaaacactgc
1800
tggaactcg agatccttct tggatgacac gaacaaaggt attggcagaa gattttgggt
1860
gatagacagg caaaacttaa tcagcctcgg gaaaagaaaa gaggcactga aaagttaatc
1920

accaaagctg aaaagattag actggcaaag actcaacaag cgagtaaaca tataagattt
 1980
 tctgaatatg attgaaaaaa aaaacagttc acctcttaac acttcacaag atacttgagc
 2040
 tgttcttggg agattcactt ttattatggt agcactgcat aattaatgtg tttttaatta
 2100
 aaagaaatat ctttgttcct taacttgtaa ataagacttt tttctagaga caaatatgat
 2160
 gtataccaca atttttctta aacattttat ttgttgaaat tatcttagat gtcagtgtca
 2220
 ggtgatttag taaataaatg tgttttgaac attaaaaaaa aaaaaaaaaa aaaaaaaaaa
 2280
 aaaaaaaaaa aaagaaaaaa aaaaaaaaaa aaa
 2313

<210> 4008

<211> 290

<212> PRT

<213> Homo sapiens

<400> 4008

Gly	Lys	Arg	Lys	Arg	Ser	Ser	Ser	Glu	Asp	Ala	Glu	Ser	Leu	Ala	Pro
1			5					10					15		
Arg	Ser	Lys	Val	Lys	Lys	Ile	Ile	Gln	Lys	Asp	Ile	Ile	Lys	Glu	Ala
		20						25					30		
Ser	Glu	Ala	Ser	Lys	Glu	Asn	Arg	Asp	Ile	Glu	Ile	Ser	Thr	Glu	Glu
		35				40						45			
Glu	Lys	Asp	Thr	Gly	Asp	Leu	Lys	Asp	Ser	Ser	Leu	Leu	Lys	Thr	Lys
		50				55					60				
Arg	Lys	His	Lys	Lys	Lys	His	Lys	Glu	Arg	His	Lys	Met	Gly	Glu	Glu
65						70				75				80	
Val	Ile	Pro	Leu	Arg	Val	Leu	Ser	Lys	Ser	Glu	Trp	Met	Asp	Leu	Lys
			85					90					95		
Lys	Glu	Tyr	Leu	Ala	Leu	Gln	Lys	Ala	Ser	Met	Ala	Ser	Leu	Lys	Lys
		100						105					110		
Thr	Ile	Ser	Gln	Ile	Lys	Ser	Glu	Ser	Glu	Met	Glu	Thr	Asp	Ser	Gly
		115					120					125			
Val	Pro	Gln	Asn	Thr	Gly	Met	Lys	Asn	Glu	Lys	Thr	Ala	Asn	Arg	Glu
		130				135					140				
Glu	Cys	Arg	Thr	Gln	Glu	Lys	Val	Asn	Ala	Thr	Gly	Pro	Gln	Phe	Val
145						150				155				160	
Ser	Gly	Val	Ile	Val	Lys	Ile	Ile	Ser	Thr	Glu	Pro	Leu	Pro	Gly	Arg
			165						170					175	
Lys	Gln	Val	Arg	Asp	Thr	Leu	Ala	Ala	Ile	Ser	Glu	Val	Leu	Tyr	Val
		180						185					190		
Asp	Leu	Leu	Glu	Gly	Asp	Thr	Glu	Cys	His	Ala	Arg	Phe	Lys	Thr	Pro
		195				200					205				
Glu	Asp	Ala	Gln	Ala	Val	Ile	Asn	Ala	Tyr	Thr	Glu	Ile	Asn	Lys	Lys
		210				215					220				
His	Cys	Trp	Lys	Leu	Glu	Ile	Leu	Ser	Gly	Asp	His	Glu	Gln	Arg	Tyr
225						230				235				240	
Trp	Gln	Lys	Ile	Leu	Val	Asp	Arg	Gln	Ala	Lys	Leu	Asn	Gln	Pro	Arg
			245					250					255		
Glu	Lys	Lys	Arg	Gly	Thr	Glu	Lys	Leu	Ile	Thr	Lys	Ala	Glu	Lys	Ile

260 265 270
 Arg Leu Ala Lys Thr Gln Gln Ala Ser Lys His Ile Arg Phe Ser Glu
 275 280 285
 Tyr Asp
 290

<210> 4009
 <211> 675
 <212> DNA
 <213> Homo sapiens

<400> 4009
 nnagatcttt cgcttgccct ttgtccttcc tcttctttgg aaaacatgtc tgtccaagat
 60
 ccagcatcat caccagtat acaagatggg ggtctaatac aagcctctgt acccggtcct
 120
 tcagaagaac cagtagttta taatccaaca acagctgcct tcattctgtga ctactttgtg
 180
 aatgaaaaaa ccataggcag tcttcctaata gagttttact gttctgaaaa cacttctgtc
 240
 cctaacgaat ctaacaagat tcttggttaata aaagatgtac ctcaaaaacc aggaggtgaa
 300
 accacacctt cagtaactga cttactaaat tattttttgg ctccagagat tcttactggt
 360
 gataaccaat attattgtga aaactgtgcc tctctgcaaa atgctgagaa aactatgcaa
 420
 atcacggagg aacctgaata ccttattctt actctcctga gattttcata tgatcagaag
 480
 tatcatgtga gaaggaaaat tttagacaat gtatcactgc cactggtttt ggagttgcca
 540
 gttaaaagaa ttacttcttt ctcttcattg tcagaaaagt ggtctgtaga tgttgacttc
 600
 actgatctta gtgagaacct tgctaaaaaa ttaaagcctt cagggactga tgaagcttcc
 660
 tgcacaaaat tgggtg
 675

<210> 4010
 <211> 225
 <212> PRT
 <213> Homo sapiens

<400> 4010
 Xaa Asp Leu Ser Leu Ala Phe Cys Pro Ser Ser Ser Leu Glu Asn Met
 1 5 10 15
 Ser Val Gln Asp Pro Ala Ser Ser Pro Ser Ile Gln Asp Gly Gly Leu
 20 25 30
 Met Gln Ala Ser Val Pro Gly Pro Ser Glu Glu Pro Val Val Tyr Asn
 35 40 45
 Pro Thr Thr Ala Ala Phe Ile Cys Asp Ser Leu Val Asn Glu Lys Thr
 50 55 60
 Ile Gly Ser Pro Pro Asn Glu Phe Tyr Cys Ser Glu Asn Thr Ser Val
 65 70 75 80
 Pro Asn Glu Ser Asn Lys Ile Leu Val Asn Lys Asp Val Pro Gln Lys

```

<400> 4011
ctgcaggacg tggttccgac agtcaagatg gcgggagcag ctaccacaggc ttccttggag
60
tcggccccac ggatcatgcg gctggtggcc gaatgcagcc gctccagggc cggggcaggc
120
gagctgtggc tgccgcattg gacagtggcc actcctgtgt tcatgccagt gggcacgcag
180
gccaccatga agggcatcac gaccgaacag ctggacgctc tgggttgccg catctgcctg
240
ggcaataacct accatctggg tctaaggccg ggacccgagc tgatccagaa agccaacggc
300
ctccacggct tcatgaattg gcctcataat ctgctaacgc tttgcggttg ggtttccctt
360
gacagcgggc gtttccagat ggtgtcgctg gtgtctctgt ccgaggtgac ggaggagggc
420
gtccgcttcc gctcccccta cgacggcaat gagaccctgc tgagcccgga gaaatccgtg
480
cagatccaga atgcgctggg ctcggaacat atcatgcagc tggacgacgt ggtagcagt
540
actgtgactg ggccacgtgt ggaggaggcc atgtacaggt caatccgctg gctggaccgg
600
tgcattgcag cccatcagcg gccggacaag cagaacctct tcgccattat ccaggggtggg
660
ctggacgcag atctccgggc cacctgcctt gaagagatga ccaagcgaga cgtgcctggc
720
ttcgccatcg ggggcctgag cgggggtgag agcaagtcgc agttctggcg gatgggtggc
780
ctagcacct ctcggctgcc gaaggacaag ccccgatatc tgatgggggt tggctatgcc
840

```

actgatctgg tagtctgcgt ggctcttgga tgtgacatgt tcgactgcgt cttccccaca
 900
 cggacagcgc gctttggctc tgccctgggtg cccactggga acctgcagtt gaggaagaag
 960
 gtgtttgaga aggacttcgg ccccatagac ccggagtga cctgccccac gtgccaaaag
 1020
 cacagccgcg ccttcctgca cgcactgctg cacagtgaaca acacggccgc gctgcaccac
 1080
 ctcacgggtcc acaacatcgc ctaccagctg cagctcatga gcgccgtccg caccagcatc
 1140
 gtggagaagc gcttcccga cttcgtgcgg gacttcatgg gcgccatgta cggggatccc
 1200
 accctctgtc ccacctgggc cactgacgct ctggcctctg tgggaatcac actgggctga
 1260
 cctggcattg ggagagggag ggaggaagga agggagggag gggctggaag atactgaagg
 1320
 attccttttt gaaaggtttt ttttattgta aaaaaaaaaa aaaaaaaaaa a
 1371

<210> 4012

<211> 419

<212> PRT

<213> Homo sapiens

<400> 4012

Leu	Gln	Asp	Val	Val	Pro	Thr	Val	Lys	Met	Ala	Gly	Ala	Ala	Thr	Gln
1				5					10					15	
Ala	Ser	Leu	Glu	Ser	Ala	Pro	Arg	Ile	Met	Arg	Leu	Val	Ala	Glu	Cys
		20						25					30		
Ser	Arg	Ser	Arg	Ala	Arg	Ala	Gly	Glu	Leu	Trp	Leu	Pro	His	Gly	Thr
		35					40					45			
Val	Ala	Thr	Pro	Val	Phe	Met	Pro	Val	Gly	Thr	Gln	Ala	Thr	Met	Lys
		50				55					60				
Gly	Ile	Thr	Thr	Glu	Gln	Leu	Asp	Ala	Leu	Gly	Cys	Arg	Ile	Cys	Leu
65					70					75				80	
Gly	Asn	Thr	Tyr	His	Leu	Gly	Leu	Arg	Pro	Gly	Pro	Glu	Leu	Ile	Gln
				85					90					95	
Lys	Ala	Asn	Gly	Leu	His	Gly	Phe	Met	Asn	Trp	Pro	His	Asn	Leu	Leu
		100						105					110		
Thr	Leu	Cys	Gly	Gly	Val	Ser	Leu	Asp	Ser	Gly	Gly	Phe	Gln	Met	Val
		115					120					125			
Ser	Leu	Val	Ser	Leu	Ser	Glu	Val	Thr	Glu	Glu	Gly	Val	Arg	Phe	Arg
		130				135					140				
Ser	Pro	Tyr	Asp	Gly	Asn	Glu	Thr	Leu	Leu	Ser	Pro	Glu	Lys	Ser	Val
145					150					155				160	
Gln	Ile	Gln	Asn	Ala	Leu	Gly	Ser	Asp	Ile	Ile	Met	Gln	Leu	Asp	Asp
			165						170					175	
Val	Val	Ser	Ser	Thr	Val	Thr	Gly	Pro	Arg	Val	Glu	Glu	Ala	Met	Tyr
		180						185					190		
Arg	Ser	Ile	Arg	Trp	Leu	Asp	Arg	Cys	Ile	Ala	Ala	His	Gln	Arg	Pro
		195					200					205			
Asp	Lys	Gln	Asn	Leu	Phe	Ala	Ile	Ile	Gln	Gly	Gly	Leu	Asp	Ala	Asp
	210					215					220				
Leu	Arg	Ala	Thr	Cys	Leu	Glu	Glu	Met	Thr	Lys	Arg	Asp	Val	Pro	Gly

```
<210> 4013
<211> 1419
<212> DNA
<213> Homo sapiens
```

```

<400> 4013
nggatcccta tgggtgaata taaactcgac agcgagggca cccctgcga gtataaaacc
60
cccttcagga ggaacaccac gtggcaccgg gtgcccactc ctgccctgca gcccctctct
120
agagcttccc ccattccccg cagccccgac cggctgccgt gccaacagct gctccagcag
180
gccagggctg ccattcctcg aagcacctcc ttcgaccgga agctgcccga tggcacgaga
240
agctcaccca gcaaccagtc atcctccagc gacctggac ccggcgggag cggaccctgg
300
agaccacaag tgggctacga cgggtgccag tcccccttac tgctcgaaca ccagggctca
360
ggccctttgg aatgtgacgg agccagggag agggaagaca ccatggaagc aagcaggcac
420
ccggaaacca aatggcatgg ccacacctcc aaagtctcgg gttcctataa agaaagagct
480
ctgcagaaag atggaagttg caaagattcc cccaataagc tttctcacat tggggataaa
540
agttgtcca gtcactccag cagcaacacg ctctccagca acacctccag caacagtgac
600
gacaagcact ttgggtctgg cgacctgatg gacccgaat tactggggct gacctacatc
660

```

aaaggggctt ccaccgacag tggcatcgac acggccccct gcatgcctgc caccatcctc
 720
 ggccctgtgc acctggcagg cagcaggtcc ctgatccaca gccgggcccga gcagtgggct
 780
 gatgctgccg acgtctcttg gcctgacgac gagccagcca agttatattc tgtgcatggc
 840
 tacgcgtcca ccatctccgc cggcagtgct gcggaaggca gcatgggcca tctcagtgag
 900
 atatcctctc attccagtgg ttctcaccat tcaggaagcc cttcagctca ctgttcaaaa
 960
 agtagtgggt ctctggattc atccaaagtc tacatcgtgt ctcacagcag cggacaacag
 1020
 gttcccggtt ccatgtccaa gccctaccac agacaagggg cagtgaacaa atatgtcatc
 1080
 ggctggaaga aatcggaggg cagcccaccg cccgaggagc ctgaagtgc tgaatgtccc
 1140
 gggatgtata gtgagttgga tgtcatgtcc acagcaactc agcatcagac agtgggtggga
 1200
 gatgctgttg cagagactca acatgttctg tctaaagaag attttctgaa attgatgctt
 1260
 cctgacagcc ccttagtgga ggaggggcca agaaagtgtt cgttctatgg gaacctgtct
 1320
 ccaaggaggt cgctttaccg cacgctgtct gacgagagca tctgcagcaa caggaggggg
 1380
 tcctcctttg gcagttcccg gagttccgtg cttgaccag
 1419

<210> 4014

<211> 473

<212> PRT

<213> Homo sapiens

<400> 4014

Xaa	Ile	Pro	Met	Val	Glu	Tyr	Lys	Leu	Asp	Ser	Glu	Gly	Thr	Pro	Cys
1				5					10					15	
Glu	Tyr	Lys	Thr	Pro	Phe	Arg	Arg	Asn	Thr	Thr	Trp	His	Arg	Val	Pro
			20					25				30			
Thr	Pro	Ala	Leu	Gln	Pro	Leu	Ser	Arg	Ala	Ser	Pro	Ile	Pro	Gly	Thr
		35				40					45				
Pro	Asp	Arg	Leu	Pro	Cys	Gln	Gln	Leu	Leu	Gln	Gln	Ala	Gln	Ala	Ala
	50				55				60						
Ile	Pro	Arg	Ser	Thr	Ser	Phe	Asp	Arg	Lys	Leu	Pro	Asp	Gly	Thr	Arg
65				70				75					80		
Ser	Ser	Pro	Ser	Asn	Gln	Ser	Ser	Ser	Ser	Asp	Pro	Gly	Pro	Gly	Gly
			85					90				95			
Ser	Gly	Pro	Trp	Arg	Pro	Gln	Val	Gly	Tyr	Asp	Gly	Cys	Gln	Ser	Pro
		100						105				110			
Leu	Leu	Leu	Glu	His	Gln	Gly	Ser	Gly	Pro	Leu	Glu	Cys	Asp	Gly	Ala
		115				120						125			
Arg	Glu	Arg	Glu	Asp	Thr	Met	Glu	Ala	Ser	Arg	His	Pro	Glu	Thr	Lys
	130					135					140				
Trp	His	Gly	Pro	Pro	Ser	Lys	Val	Leu	Gly	Ser	Tyr	Lys	Glu	Arg	Ala
145					150					155				160	
Leu	Gln	Lys	Asp	Gly	Ser	Cys	Lys	Asp	Ser	Pro	Asn	Lys	Leu	Ser	His

```
<210> 4015
<211> 823
<212> DNA
<213> Homo sapiens
```

```
<400> 4015
cgcttcgaga agcagaagta cctttccacg ccggacagaa tagatcttgc tgagtccctg
60
ggcctgagcc agttgcaggt gaagacgtgg taccagaatc ggaggatgaa gtggaagaaa
120
atagtgctgc agggcggcgg cctggagtct cccaccaagc ccaaggggcg gcccaagaag
180
aactcaattc caacgagcga gcagcttact gagcaggagc gcgccaaagga tgcagagaaa
240
```

cccgcggagg tgccgggcca gccagcgac aggagccgcg aggactgagg gcggtatacg
 300
 gtgcggggcc tgggatgccc gcgccacccg cagccccctc actcggcgga aaccgcgag
 360
 ccggcccttc cgcgtccaag aagtttactt cctaagcctt ttattatgat cttgaatgcg
 420
 gacaattggg gccaaacgag gaaggacaca gacccaaaag ccagaccag gtcccagcgc
 480
 gcttctgggc tctaacctgg gagactcgca tccagcccgg cggaagctac agtctctacc
 540
 ctgagctccg tggcgagag cgctccacgc gtattcacgc cccgctcctc gcctgcaccc
 600
 ccgccccgtc tggggcctgc cctcccggcc ggggagcctc caggcacaca cccgcttctg
 660
 gacgtcgggg acccagcggg tgggctcagc cacaacggcc tgagattgcc ccggggcaac
 720
 ccgtcggcat gcctggaggc cgggtccccg atgtcgctgg ggcccctacc ccctcgtgcg
 780
 aagacggtga ctttttttcc aataaaatat tttatgacac aaa
 823

<210> 4016

<211> 95

<212> PRT

<213> Homo sapiens

<400> 4016

Arg	Phe	Glu	Lys	Gln	Lys	Tyr	Leu	Ser	Thr	Pro	Asp	Arg	Ile	Asp	Leu
1				5					10					15	
Ala	Glu	Ser	Leu	Gly	Leu	Ser	Gln	Leu	Gln	Val	Lys	Thr	Trp	Tyr	Gln
			20					25					30		
Asn	Arg	Arg	Met	Lys	Trp	Lys	Lys	Ile	Val	Leu	Gln	Gly	Gly	Gly	Leu
		35				40						45			
Glu	Ser	Pro	Thr	Lys	Pro	Lys	Gly	Arg	Pro	Lys	Lys	Asn	Ser	Ile	Pro
		50				55					60				
Thr	Ser	Glu	Gln	Leu	Thr	Glu	Gln	Glu	Arg	Ala	Lys	Asp	Ala	Glu	Lys
65					70				75					80	
Pro	Ala	Glu	Val	Pro	Gly	Glu	Pro	Ser	Asp	Arg	Ser	Arg	Glu	Asp	
			85					90					95		

<210> 4017

<211> 1521

<212> DNA

<213> Homo sapiens

<400> 4017

nnactagggg attaccatga tgcagtagca gccatgctgc cttttcttgc tggccacgct
 60
 gggcaccgcc gccctcaata gcagcaaccc gaagactatt gctacagtgc ccggatccgc
 120
 agcaccgtcc tacagggcct gccctttggg ggcgtcccca ccgtgctggc cttggacttc
 180
 acgtgcttcc tcgcccgtct gttcttattc tccatcctcc ggaaggtggc ctgggactat
 240

gggcggtg ccttggtgac agatgcagac aggcctcggc ggcaggagag ggaccgagtg
 300
 gaacaggaat atgtggcttc agctatgcac ggggacagcc atgaccggta tgagcgtctc
 360
 acctttgtct ccagctccgt tgactttgac caaagggaca atggtttctg ttcctggctg
 420
 acagccatct tcaggataaa ggacgatgag atccgggaca agtgtggggg cgacgctgtg
 480
 cactacctgt cctttcagcg gcacatcatc gggctgctgg tggttgtggg cgtcctctcc
 540
 gtaggcacg tgctgcctgt caacttctca ggggacctgc tggagaacaa tgcctacagc
 600
 tttgggagaa ccaccattgc caacttgaac tcagggaaca acctgctatg gctgcacacc
 660
 tccttcgcct tcctgtatct gctgctcacc gtctacagca tgcgtagaca cacctccaag
 720
 atgcgctaca aggaggatga tctggtgaag cggaccctct tcatcaatgg aatctccaaa
 780
 tatgcagagt cagaaaagat caagaagcat tttgaggaag cctaccccaa ctgcacagtt
 840
 ctgaagccc gcccggtgta caacgtggct cgcctaattg tcctcgatgc agagaggaag
 900
 aaggccgagc ggggaaagct gtacttcaca aacctccaga gcaaggagaa cgtgcctacc
 960
 atgatcaacc ccaagccctg tggccacttc tgctgctgtg tgggtgcgagg ctgtgagcag
 1020
 gtggaggcca ttgagtacta cacaagctg gagcagaagc tgaaggaaga ctacaagcgg
 1080
 gagaagggga aggtgaatga gaagcctctt ggcattggct ttgtcacctt ccacaatgag
 1140
 actatcaccg ccatcatcct gaaggacttc aacgtgtgta aatgccaggg ctgcacctgc
 1200
 cgtggggagc cagcggcctc atcctgcagc gagtccttc acatcccaa ctggaccggg
 1260
 tcctatgccc ctgacctca gaacatctac tgggagcacc tctccatccg aggccttcac
 1320
 tgggtggctgc gctgcctggg catcaatgtc gtcctcttca tctcctctt cttcctcacc
 1380
 actccagcca tcatcatcac caccatggac aagttcaacg tcaccaagcc tgtggagtag
 1440
 ctcaacaacc ccatcatcac ccagttcttc cccaccctgc tgctgtgggt cttctcggcc
 1500
 ctcttccca ccattggcta c
 1521

<210> 4018

<211> 480

<212> PRT

<213> Homo sapiens

<400> 4018

Gln	Gln	Pro	Glu	Asp	Tyr	Cys	Tyr	Ser	Ala	Arg	Ile	Arg	Ser	Thr	Val
1				5				10					15		
Leu	Gln	Gly	Leu	Pro	Phe	Gly	Gly	Val	Pro	Thr	Val	Leu	Ala	Leu	Asp

3195

450	455	460
Thr Leu Leu Leu Trp Cys Phe Ser Ala Leu Leu Pro Thr Ile Gly Tyr		
465	470	475 480

<210> 4019

<211> 2408

<212> DNA

<213> Homo sapiens

<400> 4019

```

ccccggggaa acgtcaccat cacttaaaga tatgctgggg ccagagcacc catgggccag
60
ggcttctctgc tctctacag ccaagattgg ctgatgtgcc tacaggaaga gtttcagtgc
120
ctgaaccacc gctgtgtatc tgctgtccag cgctgtgatg gggttgatgc ctgtggcgat
180
ggctctgatg aagcagggtg cagctcagac ccctccctg gcctgacccc aagaccgcgc
240
ccctccctgc cttgcaatgt caccttggag gacttctatg gggctctctc ctctcctgga
300
tatacacacc tagcctcagt ctcccacccc cagtcctgcc attggctgct ggacccccat
360
gatggccggc ggctggccgt gcgcttcaca gccccggact tgggctttgg agatgcagtg
420
catgtgtatg acggccctgg gccccctgag agctcccgac tactgcgtag tctcaccac
480
ttcagcaatg gcaaggctgt cactgtggag acactgtctg gccaggctgt tgtgtcctac
540
cacacagttg cttggagcaa tggctgtggc ttcaatgcca cctaccatgt gcggggctat
600
tgcttgccctt gggacagacc ctgtggctta ggctctggcc tgggagctgg cgaaggccta
660
ggtgagcgct gctacagtga ggcacagcgc tgtgacggct catgggactg tgctgacggc
720
acagatgagg aggactgccc aggctgccc cctggacact tcccctgtgg ggctgctggc
780
acctctggtg ccacagcctg ctacctacct gctgaccgct gcaactacca gactttctgt
840
gctgatggag cagatgagag acgctgtcgg cattgccagc ctggcaattt ccgatgccgg
900
gacgagaagt gcgtgtatga gacgtgggtg tgcgatgggc agccagactg tgcggacggc
960
agtgatgagt gggactgctc ctatgttctg ccccgcaagg tcattacagc tgcagtcatt
1020
ggcagcctag tgtgcggcct gctcctggtc atcgccctgg gctgcacctg caagctctat
1080
gccattcgca cccaggagta cagcatcttt gccccctct cccggatgga ggctgagatt
1140
gtgcagcagc aggcaccccc ttctacggg cagctcattg cccagggcgc catccacct
1200
gtagaagact ttctacaga gaatectaata gataactcag tgctgggcaa cctgcgttct
1260
ctgctacaga tcttacgcca ggatatgact ccaggaggtg gcccaggtgc ccgccgtcgt
1320

```

cagcggggcc gcttgatgcg acgcctggta cgccgtctcc gccgctgggg cttgctccct
 1380
 cgaaccaaca ccccggtctcg ggctcttgag gccagatccc aggtcacacc ttctgctgct
 1440
 ccccttgagg ccctagatgg tggcacaggt ccagcccggt agggcggggc agtgggtggg
 1500
 caagatgggg agcaggcacc cccactgccc atcaaggctc ccctcccatc tgctagcacg
 1560
 tctccagccc ccactactgt ccctgaagcc ccagggccac tgccctcact gccctagag
 1620
 ccatcactat tgtctggagt ggtgcaggcc ctgcgaggcc gcctgttgcc cagcctgggg
 1680
 cccccaggac caaccggag ccccccctgga cccacacag cagtccctggc cctggaagat
 1740
 gaggacgatg tgctactggt gccactggct gagccggggg tgtgggtagc tgaggcagag
 1800
 gatgagccac tgcttacctg aggggacctg ggggctctac tgaggcctct cccctggggg
 1860
 ctctactcat agtggcacia ccttttagag gtgggtcagc ctccctcca ccacttcctt
 1920
 ccctgtccct ggatttcagg gacttggtgg gcctccggt gaccctatgt agctgctata
 1980
 aagttaagtg tccctcaggc agggagaggg ctacacagat ctccctctgta cgtggccatg
 2040
 gccagacacc ccagtcctt caccaccacc tgctcccccac gccaccacca tttgggtggc
 2100
 tgtttttaa aagtaaagtt cttagaggat cataggtctg gacactccat ccttgccaaa
 2160
 cctctacca aaagtggcct taagcaccgg aatgccaatt aactagagac cctccagccc
 2220
 ccaaggggag gatttgggca gaacctgagg ttttgccatc cacaatccct cctacagggc
 2280
 ctggctcaca aaaagagtgc aacaaatgct tctattccat agctacggca ttgctcagta
 2340
 agttgaggtc aaaaataaag gaatcataca tctcaaaaaa aaaaaaaaaa aaaaaaaaaa
 2400
 aaaaaaaaa
 2408

<210> 4020

<211> 296

<212> PRT

<213> Homo sapiens

<400> 4020

Cys	Asp	Gly	Gln	Pro	Asp	Cys	Ala	Asp	Gly	Ser	Asp	Glu	Trp	Asp	Cys
1				5					10					15	
Ser	Tyr	Val	Leu	Pro	Arg	Lys	Val	Ile	Thr	Ala	Ala	Val	Ile	Gly	Ser
			20					25					30		
Leu	Val	Cys	Gly	Leu	Leu	Leu	Val	Ile	Ala	Leu	Gly	Cys	Thr	Cys	Lys
		35					40					45			
Leu	Tyr	Ala	Ile	Arg	Thr	Gln	Glu	Tyr	Ser	Ile	Phe	Ala	Pro	Leu	Ser
	50					55					60				
Arg	Met	Glu	Ala	Glu	Ile	Val	Gln	Gln	Gln	Ala	Pro	Pro	Ser	Tyr	Gly

```

65          70          75          80
Gln Leu Ile Ala Gln Gly Ala Ile Pro Pro Val Glu Asp Phe Pro Thr
      85          90          95
Glu Asn Pro Asn Asp Asn Ser Val Leu Gly Asn Leu Arg Ser Leu Leu
      100        105        110
Gln Ile Leu Arg Gln Asp Met Thr Pro Gly Gly Gly Pro Gly Ala Arg
      115        120        125
Arg Arg Gln Arg Gly Arg Leu Met Arg Arg Leu Val Arg Arg Leu Arg
      130        135        140
Arg Trp Gly Leu Leu Pro Arg Thr Asn Thr Pro Ala Arg Ala Ser Glu
145          150          155          160
Ala Arg Ser Gln Val Thr Pro Ser Ala Ala Pro Leu Glu Ala Leu Asp
      165        170        175
Gly Gly Thr Gly Pro Ala Arg Glu Gly Gly Ala Val Gly Gly Gln Asp
      180        185        190
Gly Glu Gln Ala Pro Pro Leu Pro Ile Lys Ala Pro Leu Pro Ser Ala
      195        200        205
Ser Thr Ser Pro Ala Pro Thr Thr Val Pro Glu Ala Pro Gly Pro Leu
      210        215        220
Pro Ser Leu Pro Leu Glu Pro Ser Leu Leu Ser Gly Val Val Gln Ala
225          230          235          240
Leu Arg Gly Arg Leu Leu Pro Ser Leu Gly Pro Pro Gly Pro Thr Arg
      245        250        255
Ser Pro Pro Gly Pro His Thr Ala Val Leu Ala Leu Glu Asp Glu Asp
      260        265        270
Asp Val Leu Leu Val Pro Leu Ala Glu Pro Gly Val Trp Val Ala Glu
      275        280        285
Ala Glu Asp Glu Pro Leu Leu Thr
      290        295

```

<210> 4021

<211> 4209

<212> DNA

<213> Homo sapiens

<400> 4021

```

atgggcgtta ggcagaaggc gcctcccggt ggccccgggc caggccgcac ccccgccccg
60
gtgcagatga acctgtacgc cacctgggag gtggaccgga gtcgtccag ctgctgcct
120
aggctattca gcttgaccct gaagaaactc gtcattgtaa aagaaatgga caaatgctt
180
aactcagtggt tcatcgctgt gaagctgcag ggttcaaaaa gaattcttcg ctccaacgag
240
atcgtccttc cagctagtggt actggtggaa acagagctcc aattaacctt ctcccttcag
300
tacctcatt tccttaagcg agatgccaac aagctgcaga tcatgctgca aaggagaaaa
360
cgttacaaga atcggaccat cttgggctat aagaccttg cgtgggact catcaacatg
420
gcagaggtga tgcagcatcc taatgaaggc gcaactgtgc ttggcctaca cagcaacgtg
480
aaggatgtct ctgtgcctgt ggcagaaata aagatctact ccctgtccag ccaaccatt
540

```

gaccatgaag gaatcaaadc caagctttct gatcgttctc ctgatattga caattattct
600
gaggaagagg aagagagttt ctcatcagaa caggaaggca gtgatgatcc attgcatggg
660
caggacttgt tctacgaaga cgaagatctc cggaagtgga agaagacccg gaggaacta
720
acctcaacct ctgccatcac aaggcaacct aacatcaaac agaagtttgt ggccctcctg
780
aagcggttta aagtttcaga tgagggtggc tttgggctgg agcatgtgtc ccgcgagcag
840
atccgggaag tggaagagga cttggatgaa ttgtatgaca gtctggagat gtacaacccc
900
agcgacagtg gccctgagat ggaggagaca gaaagcatcc tcagcacgcc aaagcccaag
960
ctcaagcctt tctttgaggg gatgtcgag tccagctccc agacggagat tggcagcctc
1020
aacagcaaaag gcagcctcgg aaaagacacc accagcccta tggaattggc tgctctagaa
1080
aaaattaaat ctacttgat taaaaaccaa gatgacagct tgactgaaac agacactctg
1140
gaaatcactg accaggacat gtttgagat gccagcacga gtctggttgt gccggagaaa
1200
gtcaaaactc ccatgaagtc cagtaaaacg gatctccagg gctctgcctc cccagcaaa
1260
gtggaggggg tgacacacacc ccggcagaag aggagcacgc ccctgaagga gcggcagctc
1320
tccaagcccc taagtgaag gagcaacagt tccgacagcg agcgctccc agatctggg
1380
cacgacgc agattccaag aaagggtgtg tatgaccagc tcaatcagat cctggtgtca
1440
gatgcagccc tcccagaaaa tgtcattctg gtgaacacca ctgactggca gggccagtat
1500
gtggtgagc tgctccagga ccagcggaag cctgtggtgt gcacctgctc caccgtggag
1560
gtccaggccg tgctgtccgc cctgtcacc cggatccagc gctactgcaa ctgcaactct
1620
tccatgccga ggccagtga ggtggctgct gtgggaggcc agagctacct gagctccatc
1680
ctcaggttct ttgtcaagtc cctggccaac aagacctccg actggcttgg ctacatgcgc
1740
ttctcatca tccccctcgg ttctaccct gtggccaaat acttggggtc agtcgacagt
1800
aaatacagta gtctcttct ggattctggt tggagagatc tgttcagtcg ctccgagcca
1860
ccagtgtcag agcaactgga cgtggcaggc cgggtgatgc agtacgtcaa cggggcagcc
1920
acgacacacc agcttcccgt ggccgaagcc atgctgactt gccggcataa gttccctgat
1980
gaagactcct atcagaagtt tattcccttc attggcgtgg tgaagggtgg tctggttgaa
2040
gactctcct ccacagcagg cgatggggac gattctcctg tggtcagcct tactgtgccc
2100
tccacatcac caccctccag ctccggcctg agccgagacg ccacggccac cctccctcc
2160

tccccatcta tgagcagcgc cctggccatc gtggggagcc ctaatagccc atatggggac
2220
gtgattggcc tccaggtgga ctactggctg ggccaccccg gggagcggag gagggaaggg
2280
gacaagaggg acgccagctc gaagaacacc ctcaagagtg tcttccgctc agtgcagggtg
2340
tcccgcctgc cccatagtgg ggaggcccag ctttctggca ccatggccat gactgtggtc
2400
accaagaaa agaacaagaa agttcccacc atcttcctga gcaagaaacc ccgagaaaag
2460
gaggtggatt ctaagagcca ggtcattgaa ggcatcagcc gcctcatctg ctgagccaag
2520
cagcagcaga ctatgctgag agtgtccatc gatggggtcg agtggagtga catcaagttc
2580
ttccagctgg cagcccagtg gccacccat gtcaagcact ttccagtggg actcttcagt
2640
ggcagcaagg ccacctgagg ccctgtctcc cagccacttt cctcctggc actgccacca
2700
gcctcaccgc ctgcgggcag ggggaggcca gcaggcccgg gccagcacc ccttccctgg
2760
caccagggtc tgctctcac tcgccaggt cccgaaggac actgccacag ggacgccttc
2820
cctcccctcc cctccagccc acccctgcac agcccctcct ccttcccgtt tttccccttc
2880
tcctcctgc tccaggccca aggcgtgttg gttttgcctt ctggtgcccc tagtcccctg
2940
gactgagtc cccaggcctt ccttcacccg acttccaaac tcttccttgt ggtatcagtt
3000
tccttctcgg aaatgagaaa gctggaatcc tgggtcccag caggagagcc tagtcctccc
3060
ccagcccctc cagccaccag ggtgtcctct aggatgcagc tgccagatcc actcactctg
3120
ctgcctccag caggacccaa ggccactttc aactcttatg gggttctcca cctgccccag
3180
agcttctcaa gggagggtaa gggggcacc ctagccaca ggaccctac ttcacagctc
3240
acaggggcag gaggcagctc ccctgcctcc aggaccctgt tgctatgggtg acacagcgtt
3300
tctaggacag aggggcctcc cagtctcccc ccaccaccg tgcacgactt cctcaccacc
3360
cccaggttcc ctgcagatgt cgtgtgtgtc ctgagtgttt ctttggttct ttgcacgcca
3420
agtctcttgg ttgtaccatg tgacacaccc tgtgactgg tcgctgtctt cgtggcttcc
3480
acccttggtt atgatgctcc tgccctctgc tcccagcccc tcaccagca cagctctgcc
3540
tggacttggg gagatgggag gcagaccccc accaccatac atgctgtctg tggccctca
3600
gacattctgt ttcattctcc attcatctcc ctctccac cgtgtcagtt tttctgcctt
3660
tccttctct gttcttcccc ctcttaggc ccagcctgg gccagaccc atcctcccag
3720
ccaggtttcc ctccagcagg ctcttccct ccctgtcacc tccctctcac caaccgggg
3780

tctgagcccc tcattcctga ccgtccgtgt tctcaggagt ggttgaggac acagggcccc
 3840
 agccccagccc tctgcacccc ccagcccggc catctgcgcc ccacagcccc tttggagctt
 3900
 ttctcttgtc ctctcactcc ttcccagaag tttttgcaca gaacttcatt ttgaaagtgt
 3960
 ttttctcatt ctccatacct cccccaagct ctctccagc ccttcccagg gctcagccct
 4020
 gctgtcctga gcgtctcctg ggccagagag aggagatggg ggtgggaggg actgagttga
 4080
 tgttgggttt ttcattcaat aaattggtga tttcttaccg aaaaaaaaaa aaaaaaaaaa
 4140
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa
 4200
 aaaaaaaaaa
 4209

<210> 4022

<211> 885

<212> PRT

<213> Homo sapiens

<400> 4022

Met	Gly	Val	Arg	Gln	Lys	Ala	Pro	Pro	Gly	Gly	Pro	Gly	Pro	Gly	Arg
1				5					10					15	
Thr	Pro	Ala	Pro	Val	Gln	Met	Asn	Leu	Tyr	Ala	Thr	Trp	Glu	Val	Asp
			20					25					30		
Arg	Ser	Ser	Ser	Ser	Cys	Val	Pro	Arg	Leu	Phe	Ser	Leu	Thr	Leu	Lys
		35					40					45			
Lys	Leu	Val	Met	Leu	Lys	Glu	Met	Asp	Lys	Asp	Leu	Asn	Ser	Val	Val
	50					55				60					
Ile	Ala	Val	Lys	Leu	Gln	Gly	Ser	Lys	Arg	Ile	Leu	Arg	Ser	Asn	Glu
65					70				75					80	
Ile	Val	Leu	Pro	Ala	Ser	Gly	Leu	Val	Glu	Thr	Glu	Leu	Gln	Leu	Thr
			85					90						95	
Phe	Ser	Leu	Gln	Tyr	Pro	His	Phe	Leu	Lys	Arg	Asp	Ala	Asn	Lys	Leu
		100						105					110		
Gln	Ile	Met	Leu	Gln	Arg	Arg	Lys	Arg	Tyr	Lys	Asn	Arg	Thr	Ile	Leu
		115					120					125			
Gly	Tyr	Lys	Thr	Leu	Ala	Val	Gly	Leu	Ile	Asn	Met	Ala	Glu	Val	Met
	130					135					140				
Gln	His	Pro	Asn	Glu	Gly	Ala	Leu	Val	Leu	Gly	Leu	His	Ser	Asn	Val
145				150						155				160	
Lys	Asp	Val	Ser	Val	Pro	Val	Ala	Glu	Ile	Lys	Ile	Tyr	Ser	Leu	Ser
			165					170						175	
Ser	Gln	Pro	Ile	Asp	His	Glu	Gly	Ile	Lys	Ser	Lys	Leu	Ser	Asp	Arg
		180						185					190		
Ser	Pro	Asp	Ile	Asp	Asn	Tyr	Ser	Glu	Glu	Glu	Glu	Glu	Ser	Phe	Ser
		195					200					205			
Ser	Glu	Gln	Glu	Gly	Ser	Asp	Asp	Pro	Leu	His	Gly	Gln	Asp	Leu	Phe
	210					215					220				
Tyr	Glu	Asp	Glu	Asp	Leu	Arg	Lys	Val	Lys	Lys	Thr	Arg	Arg	Lys	Leu
225					230						235			240	
Thr	Ser	Thr	Ser	Ala	Ile	Thr	Arg	Gln	Pro	Asn	Ile	Lys	Gln	Lys	Phe

				245						250					255
Val	Ala	Leu	Leu	Lys	Arg	Phe	Lys	Val	Ser	Asp	Glu	Val	Gly	Phe	Gly
			260					265					270		
Leu	Glu	His	Val	Ser	Arg	Glu	Gln	Ile	Arg	Glu	Val	Glu	Glu	Asp	Leu
		275					280					285			
Asp	Glu	Leu	Tyr	Asp	Ser	Leu	Glu	Met	Tyr	Asn	Pro	Ser	Asp	Ser	Gly
	290					295				300					
Pro	Glu	Met	Glu	Glu	Thr	Glu	Ser	Ile	Leu	Ser	Thr	Pro	Lys	Pro	Lys
305					310					315					320
Leu	Lys	Pro	Phe	Phe	Glu	Gly	Met	Ser	Gln	Ser	Ser	Ser	Gln	Thr	Glu
			325						330					335	
Ile	Gly	Ser	Leu	Asn	Ser	Lys	Gly	Ser	Leu	Gly	Lys	Asp	Thr	Thr	Ser
		340					345					350			
Pro	Met	Glu	Leu	Ala	Ala	Leu	Glu	Lys	Ile	Lys	Ser	Thr	Trp	Ile	Lys
	355					360						365			
Asn	Gln	Asp	Asp	Ser	Leu	Thr	Glu	Thr	Asp	Thr	Leu	Glu	Ile	Thr	Asp
	370				375					380					
Gln	Asp	Met	Phe	Gly	Asp	Ala	Ser	Thr	Ser	Leu	Val	Val	Pro	Glu	Lys
385				390						395				400	
Val	Lys	Thr	Pro	Met	Lys	Ser	Ser	Lys	Thr	Asp	Leu	Gln	Gly	Ser	Ala
			405						410					415	
Ser	Pro	Ser	Lys	Val	Glu	Gly	Val	His	Thr	Pro	Arg	Gln	Lys	Arg	Ser
	420						425					430			
Thr	Pro	Leu	Lys	Glu	Arg	Gln	Leu	Ser	Lys	Pro	Leu	Ser	Glu	Arg	Thr
	435					440					445				
Asn	Ser	Ser	Asp	Ser	Glu	Arg	Ser	Pro	Asp	Leu	Gly	His	Ser	Thr	Gln
	450				455					460					
Ile	Pro	Arg	Lys	Val	Val	Tyr	Asp	Gln	Leu	Asn	Gln	Ile	Leu	Val	Ser
465				470					475					480	
Asp	Ala	Ala	Leu	Pro	Glu	Asn	Val	Ile	Leu	Val	Asn	Thr	Thr	Asp	Trp
			485					490						495	
Gln	Gly	Gln	Tyr	Val	Ala	Glu	Leu	Leu	Gln	Asp	Gln	Arg	Lys	Pro	Val
	500						505					510			
Val	Cys	Thr	Cys	Ser	Thr	Val	Glu	Val	Gln	Ala	Val	Leu	Ser	Ala	Leu
	515					520					525				
Leu	Thr	Arg	Ile	Gln	Arg	Tyr	Cys	Asn	Cys	Asn	Ser	Ser	Met	Pro	Arg
	530				535					540					
Pro	Val	Lys	Val	Ala	Ala	Val	Gly	Gly	Gln	Ser	Tyr	Leu	Ser	Ser	Ile
545				550					555					560	
Leu	Arg	Phe	Phe	Val	Lys	Ser	Leu	Ala	Asn	Lys	Thr	Ser	Asp	Trp	Leu
			565					570						575	
Gly	Tyr	Met	Arg	Phe	Leu	Ile	Ile	Pro	Leu	Gly	Ser	His	Pro	Val	Ala
	580						585					590			
Lys	Tyr	Leu	Gly	Ser	Val	Asp	Ser	Lys	Tyr	Ser	Ser	Ser	Phe	Leu	Asp
	595				600</										

675	680	685
Gly Asp Asp Ser Pro Val Val Ser Leu Thr Val Pro Ser Thr Ser Pro		
690	695	700
Pro Ser Ser Ser Gly Leu Ser Arg Asp Ala Thr Ala Thr Pro Pro Ser		
705	710	715
Ser Pro Ser Met Ser Ser Ala Leu Ala Ile Val Gly Ser Pro Asn Ser		
725	730	735
Pro Tyr Gly Asp Val Ile Gly Leu Gln Val Asp Tyr Trp Leu Gly His		
740	745	750
Pro Gly Glu Arg Arg Arg Glu Gly Asp Lys Arg Asp Ala Ser Ser Lys		
755	760	765
Asn Thr Leu Lys Ser Val Phe Arg Ser Val Gln Val Ser Arg Leu Pro		
770	775	780
His Ser Gly Glu Ala Gln Leu Ser Gly Thr Met Ala Met Thr Val Val		
785	790	795
Thr Lys Glu Lys Asn Lys Lys Val Pro Thr Ile Phe Leu Ser Lys Lys		
805	810	815
Pro Arg Glu Lys Glu Val Asp Ser Lys Ser Gln Val Ile Glu Gly Ile		
820	825	830
Ser Arg Leu Ile Cys Ser Ala Lys Gln Gln Gln Thr Met Leu Arg Val		
835	840	845
Ser Ile Asp Gly Val Glu Trp Ser Asp Ile Lys Phe Phe Gln Leu Ala		
850	855	860
Ala Gln Trp Pro Thr His Val Lys His Phe Pro Val Gly Leu Phe Ser		
865	870	875
Gly Ser Lys Ala Thr		880
885		

<210> 4023

<211> 5193

<212> DNA

<213> Homo sapiens

<400> 4023

```

nnacgcgtga agggcatggc tttttctcct gattccacta aaattgccat aggacagact
60
gacaacatca tctatgtcta caagattgga gaagattggg gtgacaagaa agtcatctgc
120
aacaagtcca tccagacgag tgctgtcact tgtctgcaat ggccggcaga atacatcatt
180
gtctttggac tggctgaagg gaaggttcgt ttagcaaaca ccaaaactaa taaatcatct
240
accatctatg ggacagagtc ttacgtggtg tcctgacaa caaattgctc tgggaaagga
300
attctctctg gtcatgcaga tggtaaccatc gttaggtatt tctttgatga tgaaggctct
360
ggagagtcac aggggaagtt ggttaaccac ccgtgtccac cctatgcctt ggcatgggca
420
accaatagca tcgtggctgc aggtgtgat cggaaaattg tagcctatgg aaaagaaggt
480
cacatgctac aaacttttga ttatagccgt gaccctcagg agcgggagtt caccacagct
540
gtatcaagtc ctgggggcca gtctgttgtg ctaggaagtt atgacaggct tcgggtgttc
600

```

aactggatcc ctggaagaag catctgggaa gaggcaaagc ccaaggagat taccaattta
660
tacaccatca ctgccttggc ctggaagcgg gatggctcac ggctctgtgt gggcacacta
720
tgtggtgggg tggaacagtt tgactgctgc ctccgaagga gtattttaca gaacaagttt
780
gagttgacgt atgtgggacc tagccagggtg attgtgaaga acctgtcatc aggaacccga
840
gtggtgctca agtcacacta tggctatgag gtggaagagg tgaaaatcct aggaaaggaa
900
cgttacttgg tggtcacac atcagaaaca ctgctgctgg gggacctgaa cactaatcgg
960
cttagtgaga tagcctggca aggatctggt ggcaatgaga agtattttct tgaaaatgag
1020
aatgtatgca tgatcttcaa tgccggagag ctaaccctgg tggaatatgg gaataatgac
1080
accctgggtt ctgtacgcac tgaattcatg aacccccacc tcatcagtg tctgattaat
1140
gagaggtgtc agcgaggaaac agaagataat aagaaattgg cttatcttat tgatattaag
1200
actattgcta tagtggatct gattgggtggc tacaacattg gcaccgtcag ccatgagagc
1260
cgtgtggatt ggctggaact taatgagact ggacacaagc tcctcttcag ggaccggaaa
1320
cttcgtttgc atctgtatga tattgaaagc tgctctaaga caatgatcct caactttctgc
1380
tcctatatgc agtgggtccc aggaagtgac gtgctggtag ctcagaaccg aaacagtctg
1440
tgtgtatggt acaacattga ggcacctgag agagtcacca tgttcactat taggggtgat
1500
gttataggtc tggagcgggg cgggggaaaag accgaggtga tggatgatga aggtgtgact
1560
actgttgccct acacattgga tgagggcctc atcgagtttg gaacagccat tgatgatggc
1620
aactacatcc gggcaacagc cttcttagag actctggaaa tgaccccgaga aacagaggca
1680
atgtggaaaa ccttgagtaa actggcacta gaggcaaggc aactacacat tgcggagagg
1740
tgcttttctg ctttgggcca agtagcaaaa gctcgattcc tgcagagac caatgagatt
1800
gcagatcaag tatcccggga atatggcgga gaaggaacag acttttatca ggtccgagca
1860
cgtctagcca tgctggaaaa gaactacaaa ctggctgaaa tgatcttttt ggaacagaat
1920
gctgtggagg aggccatggg catgtaccag gagctacacc gttgggatga gtgtatcgct
1980
gtggctgaag ccaaggggca ccagccctg gagaagctac gtcgtagtta ctaccagtgg
2040
ctgatggaca cacagcaaga ggagcgagca ggtgaactac aggagagcca aggggatggg
2100
ctagcagcca tcagcctcta cctcaaagct gggctccctg ccaaagctgc tcggctggtg
2160
ctgacccgag aggaactgct agccaacaca gagctggtag aacacatcac tgcagccctt
2220

atcaaggggg aactctacga aagggcaggt gatctctttg agaagattca caatccacag
2280
aaggccctgg agtgetaccg taaaggcaac gcattcatga aagcggtaga gctggctcga
2340
ttggccttcc cagtggaggt ggtgaaacta gaggaggcat ggggggacca cctggtgcag
2400
cagaagcagc ttgatgcagc cattaatcac tacatcgaag ccagggtgctc cattaaggca
2460
attgaggccg ccctgggtgc ccgccagtgg aagaaggcaa tttatatatt agatctacag
2520
gaccggaaca ctgcatccaa atactatcct ctctgggcc aacactatgc atccctgcag
2580
gagtatgaga ttgctgagga gctctatact aaggagatc ggacaaaaga tgccatagac
2640
atgtacaccc aggtgggtcg ttgggaacaa gcccacaagc tggcgatgaa atgcatgaga
2700
ccagaagatg tgtcagtgtc atacatcact caggcccagg aaatggagaa gcagggcaag
2760
taccgtgagg ctgaaaggct atatgtgaca gtacaagagc ctgatcttgc catcaccatg
2820
tacaaaaagc acaagtgtga tgatgacatg atccgcctgg tagggaagca ccaccagat
2880
ctcctcagtg atacacacct acatctgggc aaggagctgg aggctgaagg ccgactacag
2940
gaggctgagt accactacct cgaggcccag gaatggaagg caacagtga catgtaccgg
3000
gccagtgggc tttgggaaga ggcctacagg gtggccagaa ctcaaggagg ggctaattgc
3060
cacaaacacg tggcctatct gtgggcaaag agcctgggag gagaggctgc agttagactg
3120
cttaataagc tgggactcct ggaagctgct gttgaccacg ctgcagacaa ttgctccttt
3180
gaatttgctt ttgaactctc tcggctggcc ctcaagcaca aaacccccga ggttcatctc
3240
aaatatgcta tgttcctgga ggatgagggt aaattcgaag aggctgaagc tgaattcatc
3300
agagctggta aaccaagga ggcagtcctc atgtttgtcc ataaccagga ttgggaggca
3360
gctcagcgtg tggctgaggc tcacgacctg gacagtgtcg ccgaggtgct tgtgggacag
3420
gcccgggggg ccttggagga gaaggacttt cagaaagcag aagggtgct gctccggggc
3480
cagagaccag gcctggccct caattattat aaggaggctg gattatggag tgacgctctg
3540
cgcactgca aggactatgt gccagccag ctggaggctc tgcaaggaaga atatgagcgg
3600
gaagctacta agaagggggc caggggtgtg gagggatttg tggaacaagc tcgacactgg
3660
gagcaggctg gagagtacag ccgtgccgtg gactgctacc tcaaagtgcg agactctgga
3720
aacagcggcc tggcggagaa gtgctggatg aaggcagctg aactctccat caagtttctg
3780
cctccccaac gtaatatgga agtcgttctg gctgtaggac ccagctgat tggaattgga
3840

aagcacagtg cagctgcaga gctctatctg aatctggacc ttgtcaagga agcaatcgat
3900
gctttcatcg aggggtgagga gtggaacaag gcgaagcgtg tagctaagga gttagatccc
3960
aggtatgaag actatgtgga ccagcattat aaagagttcc tcaagaatca gggcaaagtg
4020
gactcgctgg tgggtgtgga tgtgatagct gctttggacc tgtatgtgga gcagggccag
4080
tgggacaagt gcattgaaac agctaccaag cagaactaca agattctgca caagtatgtg
4140
gctttgtatg caactcactt gatccgggag ggtagctctg cccaggcatt ggccctgtat
4200
gtacagcagc gagccccctgc taaccacacag aacttcaata tctacaaaag gatcttcact
4260
gacatggtga gctctcctgg aaccaactgt gccgaggcct atcatagctg ggctgatctt
4320
cgagatgtcc tcttcaacct ggctgtgctg tctccctcct ctagtgtgaa aacctggaag
4380
tccagtgagg caaactctcc agcccatgag gagttcaaga cgatgctgct gatcgctcat
4440
tactatgcca cgcgctctgc agcccagagt gtcaaacagc tggaaaaccgt ggctgccagg
4500
ctttctgttt cactcttgcg tcacaccag ctactacctg tagacaaagc cttctatgaa
4560
gcaggcattg ctgccaaggc agttggctgg gataacatgg cattcatctt cctcaatcgc
4620
tttttggacc tgaccgatgc aatcgaggaa gggactctag atggccttga ccactctgat
4680
tttcaggata cagacattcc ctttgagggtg ccactcccag ctaagcagca tgtaccggag
4740
gctgagagag aagaggttcg agactgggtg cttacagtct ccatggacca gcggctggag
4800
cagggttctgc ctcgggatga gcgtggcgcc tacgaggcct ccctagtggc agcgagcact
4860
ggtgttcgag ccctgccttg ccttattaca ggatacccca ttctgaggaa caaaattgaa
4920
ttaagcggc caggggaaggc tgctaacaag gacaactgga ataaattcct tatggccatc
4980
aagacctccc acagcccagt gtgccaggac gtgctgaaat tcatcagtca gtggtgtgga
5040
gggctcccca gcaccagctt ttcctttcag tagttggtag agctgaggaa gagttagggc
5100
ctctccctca ttaaagtttt ataaataaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa
5160
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaa
5193

<210> 4024

<211> 1690

<212> PRT

<213> Homo sapiens

<400> 4024

Xaa Arg Val Lys Gly Met Ala Phe Ser Pro Asp Ser Thr Lys Ile Ala

1	5	10	15
Ile Gly Gln Thr Asp Asn Ile Ile Tyr Val Tyr Lys Ile Gly Glu Asp			
20	25	30	
Trp Gly Asp Lys Lys Val Ile Cys Asn Lys Phe Ile Gln Thr Ser Ala			
35	40	45	
Val Thr Cys Leu Gln Trp Pro Ala Glu Tyr Ile Ile Val Phe Gly Leu			
50	55	60	
Ala Glu Gly Lys Val Arg Leu Ala Asn Thr Lys Thr Asn Lys Ser Ser			
65	70	75	80
Thr Ile Tyr Gly Thr Glu Ser Tyr Val Val Ser Leu Thr Thr Asn Cys			
85	90	95	
Ser Gly Lys Gly Ile Leu Ser Gly His Ala Asp Gly Thr Ile Val Arg			
100	105	110	
Tyr Phe Phe Asp Asp Glu Gly Ser Gly Glu Ser Gln Gly Lys Leu Val			
115	120	125	
Asn His Pro Cys Pro Pro Tyr Ala Leu Ala Trp Ala Thr Asn Ser Ile			
130	135	140	
Val Ala Ala Gly Cys Asp Arg Lys Ile Val Ala Tyr Gly Lys Glu Gly			
145	150	155	160
His Met Leu Gln Thr Phe Asp Tyr Ser Arg Asp Pro Gln Glu Arg Glu			
165	170	175	
Phe Thr Thr Ala Val Ser Ser Pro Gly Gly Gln Ser Val Val Leu Gly			
180	185	190	
Ser Tyr Asp Arg Leu Arg Val Phe Asn Trp Ile Pro Arg Arg Ser Ile			
195	200	205	
Trp Glu Glu Ala Lys Pro Lys Glu Ile Thr Asn Leu Tyr Thr Ile Thr			
210	215	220	
Ala Leu Ala Trp Lys Arg Asp Gly Ser Arg Leu Cys Val Gly Thr Leu			
225	230	235	240
Cys Gly Gly Val Glu Gln Phe Asp Cys Cys Leu Arg Arg Ser Ile Tyr			
245	250	255	
Lys Asn Lys Phe Glu Leu Thr Tyr Val Gly Pro Ser Gln Val Ile Val			
260	265	270	
Lys Asn Leu Ser Ser Gly Thr Arg Val Val Leu Lys Ser His Tyr Gly			
275	280	285	
Tyr Glu Val Glu Glu Val Lys Ile Leu Gly Lys Glu Arg Tyr Leu Val			
290	295	300	
Ala His Thr Ser Glu Thr Leu Leu Leu Gly Asp Leu Asn Thr Asn Arg			
305	310	315	320
Leu Ser Glu Ile Ala Trp Gln Gly Ser Gly Gly Asn Glu Lys Tyr Phe			
325	330	335	
Phe Glu Asn Glu Asn Val Cys Met Ile Phe Asn Ala Gly Glu Leu Thr			
340	345	350	
Leu Val Glu Tyr Gly Asn Asn Asp Thr Leu Gly Ser Val Arg Thr Glu			
355	360	365	
Phe Met Asn Pro His Leu Ile Ser Val Arg Ile Asn Glu Arg Cys Gln			
370	375	380	
Arg Gly Thr Glu Asp Asn Lys Lys Leu Ala Tyr Leu Ile Asp Ile Lys			
385	390	395	400
Thr Ile Ala Ile Val Asp Leu Ile Gly Gly Tyr Asn Ile Gly Thr Val			
405	410	415	
Ser His Glu Ser Arg Val Asp Trp Leu Glu Leu Asn Glu Thr Gly His			
420	425	430	
Lys Leu Leu Phe Arg Asp Arg Lys Leu Arg Leu His Leu Tyr Asp Ile			

435	440	445
Glu Ser Cys Ser Lys Thr Met	Ile Leu Asn Phe Cys Ser Tyr Met Gln	
450	455	460
Trp Val Pro Gly Ser Asp Val	Leu Val Ala Gln Asn Arg Asn Ser Leu	
465	470	475
Cys Val Trp Tyr Asn Ile Glu	Ala Pro Glu Arg Val Thr Met Phe Thr	
485	490	495
Ile Arg Gly Asp Val Ile Gly	Leu Glu Arg Gly Gly Gly Lys Thr Glu	
500	505	510
Val Met Val Met Glu Gly Val	Thr Thr Val Ala Tyr Thr Leu Asp Glu	
515	520	525
Gly Leu Ile Glu Phe Gly Thr	Ala Ile Asp Asp Gly Asn Tyr Ile Arg	
530	535	540
Ala Thr Ala Phe Leu Glu Thr	Leu Glu Met Thr Pro Glu Thr Glu Ala	
545	550	555
Met Trp Lys Thr Leu Ser Lys	Leu Ala Leu Glu Ala Arg Gln Leu His	
565	570	575
Ile Ala Glu Arg Cys Phe Ser	Ala Leu Gly Gln Val Ala Lys Ala Arg	
580	585	590
Phe Leu His Glu Thr Asn Glu	Ile Ala Asp Gln Val Ser Arg Glu Tyr	
595	600	605
Gly Gly Glu Gly Thr Asp Phe	Tyr Gln Val Arg Ala Arg Leu Ala Met	
610	615	620
Leu Glu Lys Asn Tyr Lys Leu	Ala Glu Met Ile Phe Leu Glu Gln Asn	
625	630	635
Ala Val Glu Glu Ala Met Gly	Met Tyr Gln Glu Leu His Arg Trp Asp	
645	650	655
Glu Cys Ile Ala Val Ala Glu	Ala Lys Gly His Pro Ala Leu Glu Lys	
660	665	670
Leu Arg Arg Ser Tyr Tyr Gln	Trp Leu Met Asp Thr Gln Gln Glu Glu	
675	680	685
Arg Ala Gly Glu Leu Gln Glu	Ser Gln Gly Asp Gly Leu Ala Ala Ile	
690	695	700
Ser Leu Tyr Leu Lys Ala Gly	Leu Pro Ala Lys Ala Ala Arg Leu Val	
705	710	715
Leu Thr Arg Glu Glu Leu Leu	Ala Asn Thr Glu Leu Val Glu His Ile	
725	730	735
Thr Ala Ala Leu Ile Lys Gly	Glu Leu Tyr Glu Arg Ala Gly Asp Leu	
740	745	750
Phe Glu Lys Ile His Asn Pro	Gln Lys Ala Leu Glu Cys Tyr Arg Lys	
755	760	765
Gly Asn Ala Phe Met Lys Ala	Val Glu Leu Ala Arg Leu Ala Phe Pro	
770	775	780
Val Glu Val Val Lys Leu Glu	Glu Ala Trp Gly Asp His Leu Val Gln	
785	790	795
Gln Lys Gln Leu Asp Ala Ala	Ile Asn His Tyr Ile Glu Ala Arg Cys	
805	810	815
Ser Ile Lys Ala Ile Glu Ala	Ala Leu Gly Ala Arg Gln Trp Lys Lys	
820	825	830
Ala Ile Tyr Ile Leu Asp Leu	Gln Asp Arg Asn Thr Ala Ser Lys Tyr	
835	840	845
Tyr Pro Leu Val Ala Gln His	Tyr Ala Ser Leu Gln Glu Tyr Glu Ile	
850	855	860
Ala Glu Glu Leu Tyr Thr Lys	Gly Asp Arg Thr Lys Asp Ala Ile Asp	

```

865          870          875          880
Met Tyr Thr Gln Ala Gly Arg Trp Glu Gln Ala His Lys Leu Ala Met
          885          890          895
Lys Cys Met Arg Pro Glu Asp Val Ser Val Leu Tyr Ile Thr Gln Ala
          900          905          910
Gln Glu Met Glu Lys Gln Gly Lys Tyr Arg Glu Ala Glu Arg Leu Tyr
          915          920          925
Val Thr Val Gln Glu Pro Asp Leu Ala Ile Thr Met Tyr Lys Lys His
          930          935          940
Lys Leu Tyr Asp Asp Met Ile Arg Leu Val Gly Lys His His Pro Asp
945          950          955          960
Leu Leu Ser Asp Thr His Leu His Leu Gly Lys Glu Leu Glu Ala Glu
          965          970          975
Gly Arg Leu Gln Glu Ala Glu Tyr His Tyr Leu Glu Ala Gln Glu Trp
          980          985          990
Lys Ala Thr Val Asn Met Tyr Arg Ala Ser Gly Leu Trp Glu Glu Ala
          995          1000          1005
Tyr Arg Val Ala Arg Thr Gln Gly Gly Ala Asn Ala His Lys His Val
          1010          1015          1020
Ala Tyr Leu Trp Ala Lys Ser Leu Gly Gly Glu Ala Ala Val Arg Leu
1025          1030          1035          1040
Leu Asn Lys Leu Gly Leu Leu Glu Ala Ala Val Asp His Ala Ala Asp
          1045          1050          1055
Asn Cys Ser Phe Glu Phe Ala Phe Glu Leu Ser Arg Leu Ala Leu Lys
          1060          1065          1070
His Lys Thr Pro Glu Val His Leu Lys Tyr Ala Met Phe Leu Glu Asp
          1075          1080          1085
Glu Gly Lys Phe Glu Glu Ala Glu Ala Glu Phe Ile Arg Ala Gly Lys
          1090          1095          1100
Pro Lys Glu Ala Val Leu Met Phe Val His Asn Gln Asp Trp Glu Ala
1105          1110          1115          1120
Ala Gln Arg Val Ala Glu Ala His Asp Pro Asp Ser Val Ala Glu Val
          1125          1130          1135
Leu Val Gly Gln Ala Arg Gly Ala Leu Glu Glu Lys Asp Phe Gln Lys
          1140          1145          1150
Ala Glu Gly Leu Leu Leu Arg Ala Gln Arg Pro Gly Leu Ala Leu Asn
          1155          1160          1165
Tyr Tyr Lys Glu Ala Gly Leu Trp Ser Asp Ala Leu Arg Ile Cys Lys
          1170          1175          1180
Asp Tyr Val Pro Ser Gln Leu Glu Ala Leu Gln Glu Glu Tyr Glu Arg
1185          1190          1195          1200
Glu Ala Thr Lys Lys Gly Ala Arg Gly Val Glu Gly Phe Val Glu Gln
          1205          1210          1215
Ala Arg His Trp Glu Gln Ala Gly Glu Tyr Ser Arg Ala Val Asp Cys
          1220          1225          1230
Tyr Leu Lys Val Arg Asp Ser Gly Asn Ser Gly Leu Ala Glu Lys Cys
          1235          1240          1245
Trp Met Lys Ala Ala Glu Leu Ser Ile Lys Phe Leu Pro Pro Gln Arg
          1250          1255          1260
Asn Met Glu Val Val Leu Ala Val Gly Pro Gln Leu Ile Gly Ile Gly
1265          1270          1275          1280
Lys His Ser Ala Ala Ala Glu Leu Tyr Leu Asn Leu Asp Leu Val Lys
          1285          1290          1295
Glu Ala Ile Asp Ala Phe Ile Glu Gly Glu Glu Trp Asn Lys Ala Lys

```

1300	1305	1310
Arg Val Ala Lys Glu Leu Asp	Pro Arg Tyr Glu Asp	Tyr Val Asp Gln
1315	1320	1325
His Tyr Lys Glu Phe Leu Lys	Asn Gln Gly Lys Val Asp	Ser Leu Val
1330	1335	1340
Gly Val Asp Val Ile Ala Ala	Leu Asp Leu Tyr Val Glu	Gln Gly Gln
1345	1350	1355
Trp Asp Lys Cys Ile Glu Thr	Ala Thr Lys Gln Asn Tyr	Lys Ile Leu
1365	1370	1375
His Lys Tyr Val Ala Leu Tyr	Ala Thr His Leu Ile Arg	Glu Gly Ser
1380	1385	1390
Ser Ala Gln Ala Leu Ala Leu	Tyr Val Gln His Gly Ala	Pro Ala Asn
1395	1400	1405
Pro Gln Asn Phe Asn Ile Tyr	Lys Arg Ile Phe Thr Asp	Met Val Ser
1410	1415	1420
Ser Pro Gly Thr Asn Cys Ala	Glu Ala Tyr His Ser Trp	Ala Asp Leu
1425	1430	1435
Arg Asp Val Leu Phe Asn Leu	Ala Val Leu Ser Pro Ser	Ser Ser Val
1445	1450	1455
Lys Thr Trp Lys Ser Ser Glu	Ala Asn Ser Pro Ala His	Glu Glu Phe
1460	1465	1470
Lys Thr Met Leu Leu Ile Ala	His Tyr Tyr Ala Thr Arg	Ser Ala Ala
1475	1480	1485
Gln Ser Val Lys Gln Leu Glu	Thr Val Ala Ala Arg Leu	Ser Val Ser
1490	1495	1500
Leu Leu Arg His Thr Gln Leu	Leu Pro Val Asp Lys Ala	Phe Tyr Glu
1505	1510	1515
Ala Gly Ile Ala Ala Lys Ala	Val Gly Trp Asp Asn Met	Ala Phe Ile
1525	1530	1535
Phe Leu Asn Arg Phe Leu Asp	Leu Thr Asp Ala Ile Glu	Glu Gly Thr
1540	1545	1550
Leu Asp Gly Leu Asp His Ser	Asp Phe Gln Asp Thr Asp	Ile Pro Phe
1555	1560	1565
Glu Val Pro Leu Pro Ala Lys	Gln His Val Pro Glu Ala	Glu Arg Glu
1570	1575	1580
Glu Val Arg Asp Trp Val Leu	Thr Val Ser Met Asp Gln	Arg Leu Glu
1585	1590	1595
Gln Val Leu Pro Arg Asp Glu	Arg Gly Ala Tyr Glu Ala	Ser Leu Val
1605	1610	1615
Ala Ala Ser Thr Gly Val Arg	Ala Leu Pro Cys Leu Ile	Thr Gly Tyr
1620	1625	1630
Pro Ile Leu Arg Asn Lys Ile	Glu Phe Lys Arg Pro Gly	Lys Ala Ala
1635	1640	1645
Asn Lys Asp Asn Trp Asn Lys	Phe Leu Met Ala Ile Lys	Thr Ser His
1650	1655	1660
Ser Pro Val Cys Gln Asp Val	Leu Lys Phe Ile Ser Gln	Trp Cys Gly
1665	1670	1675
Gly Leu Pro Ser Thr Ser Phe	Ser Phe Gln	
1685	1690	

<210> 4025

<211> 908

<212> DNA

<213> Homo sapiens

<400> 4025

ttaagaactc acactggann gaaaccctat gaatgcaatc actgtgggaa agcatttagt
 60
 gatccctcat cccttagact gcatttgaga attcacactg gagaaaaacc ctatgaatgt
 120
 aaccagtgtt ttcacgtttt cgcaccagt tgtaacctta aaagccacaa gaggattcac
 180
 acgggggaga atcaccatga atgtaatcag tgtggaaaag ctttcagcac aaggctcctt
 240
 ctactgggc acaattgcat tcatacaggg gagaaacctt atgaatgtaa ggaatgtggg
 300
 aaaaccttta tgtataattc atcccttatt caacatctga gaactcatac tggagagaaa
 360
 ccctatgaat gtaaggagtg tgggaaagcc tttaggcaac attcacacct tgtcacacac
 420
 cagaaaatcc atactggaga gaagccctat cagtgcactg aatgtgggaa agccttcagg
 480
 cggcggtcac tccttattca acatcggaga attcatagtg gtgagaagcc ctatgaatgt
 540
 aaggaatgtg ggaagctctt catttggcgc acagctttcc tcaaacaatca gagcctgcat
 600
 gctggagaga aacttgaaga atgtgagaaa nnaccttcag caaggatgag gagcttaggg
 660
 gagnagcaga aaattcacca agaagagaaa gcttattggt gtaatcagtg tggtagggct
 720
 ttccagggca gctcagacct catcggacat caggtaactc atacaggaga gaaaccatat
 780
 gaatgtaaag aatgtggana aactttcaat cagagctcag accttctgag acatcataga
 840
 attcacagtg gagaaaaacc ttatgtatgc aacaaatgtg ggaaatcttt taggggcagc
 900
 tcagatct
 908

<210> 4026

<211> 302

<212> PRT

<213> Homo sapiens

<400> 4026

Leu	Arg	Thr	His	Thr	Gly	Xaa	Lys	Pro	Tyr	Glu	Cys	Asn	His	Cys	Gly
1				5					10					15	
Lys	Ala	Phe	Ser	Asp	Pro	Ser	Ser	Leu	Arg	Leu	His	Leu	Arg	Ile	His
			20					25					30		
Thr	Gly	Glu	Lys	Pro	Tyr	Glu	Cys	Asn	Gln	Cys	Phe	His	Val	Phe	Arg
			35				40					45			
Thr	Ser	Cys	Asn	Leu	Lys	Ser	His	Lys	Arg	Ile	His	Thr	Gly	Glu	Asn
			50				55				60				
His	His	Glu	Cys	Asn	Gln	Cys	Gly	Lys	Ala	Phe	Ser	Thr	Arg	Ser	Ser
65					70				75					80	
Leu	Thr	Gly	His	Asn	Cys	Ile	His	Thr	Gly	Glu	Lys	Pro	Tyr	Glu	Cys
			85					90					95		
Lys	Glu	Cys	Gly	Lys	Thr	Phe	Met	Tyr	Asn	Ser	Ser	Leu	Ile	Gln	His

```
<210> 4027
<211> 941
<212> DNA
<213> Homo sapiens
```

```

<400> 4027
gcgcgccagg gaacctatat ctgtgaaatc cgctctcaaag gggagagcca ggtgttcaaag
60
aaggcggttg tactgcatgt gcttccagag gagcccaaag agctcatggg ccatgtgggt
120
ggattgattc agatgggatg tgttttccag agcacagaag tgaaacacgt gaccaaggta
180
gaatggatat tttcaggacg gcgcgcaaag gaggagattg tatttcgtta ctaccacaaa
240
ctcaggatgt ctgcgagta ctcccagagc tgggggccact tccagaatcg tgtgaacctg
300
gtgggggaca ttttccgcaa tgacggttcc atcatgcttc aaggagtggg ggagtcagat
360
ggaggaaact acacctgcag tatccaccta gggaaacctgg tgttcaagaa aaccattgtg
420
ctgcatgtca gcccggaaga gcctcgaaca ctggtgacct cggcagccct gaggcctctg
480
gtcttgggtg gtaatcagtt ggtgatcatt gtgggaattg tctgtgccac aatcctgctg
540
ctccctgttc tgatattgat cgtgaagaag acctgtggaa ataagagttc agtgaattct
600
acagtcttgg tgaagaacac gaagaagact aatccagaga tgaaagaaaa accctgccat
660

```

ttgaaagat gtgaagggga ggtgaacaca cgcttcagcc taaaacacta agtagatgca
 720
 ggcctgggccc gttctcatat ccccggaac catatcttac ccattgtatg tcgcagcttg
 780
 caggccagtg cttggcacag agcagggact caggaagcct ttgtcactaa agtaagagcc
 840
 tctgcggagt acagtgcatt gggctcggctg ggacaccccc aggcagcaga tcctgggtatt
 900
 gggctgagga aagagcactg cgcttgaggt cagtaagatc t
 941

<210> 4028

<211> 236

<212> PRT

<213> Homo sapiens

<400> 4028

Ala	Arg	Gln	Gly	Thr	Tyr	Ile	Cys	Glu	Ile	Arg	Leu	Lys	Gly	Glu	Ser
1			5						10					15	
Gln	Val	Phe	Lys	Lys	Ala	Val	Val	Leu	His	Val	Leu	Pro	Glu	Glu	Pro
			20					25					30		
Lys	Glu	Leu	Met	Val	His	Val	Gly	Gly	Leu	Ile	Gln	Met	Gly	Cys	Val
			35				40					45			
Phe	Gln	Ser	Thr	Glu	Val	Lys	His	Val	Thr	Lys	Val	Glu	Trp	Ile	Phe
		50				55				60					
Ser	Gly	Arg	Arg	Ala	Lys	Glu	Glu	Ile	Val	Phe	Arg	Tyr	Tyr	His	Lys
65					70					75				80	
Leu	Arg	Met	Ser	Ala	Glu	Tyr	Ser	Gln	Ser	Trp	Gly	His	Phe	Gln	Asn
				85				90						95	
Arg	Val	Asn	Leu	Val	Gly	Asp	Ile	Phe	Arg	Asn	Asp	Gly	Ser	Ile	Met
			100					105					110		
Leu	Gln	Gly	Val	Arg	Glu	Ser	Asp	Gly	Gly	Asn	Tyr	Thr	Cys	Ser	Ile
		115					120						125		
His	Leu	Gly	Asn	Leu	Val	Phe	Lys	Lys	Thr	Ile	Val	Leu	His	Val	Ser
		130					135					140			
Pro	Glu	Glu	Pro	Arg	Thr	Leu	Val	Thr	Pro	Ala	Ala	Leu	Arg	Pro	Leu
145					150					155				160	
Val	Leu	Gly	Gly	Asn	Gln	Leu	Val	Ile	Ile	Val	Gly	Ile	Val	Cys	Ala
				165				170						175	
Thr	Ile	Leu	Leu	Leu	Pro	Val	Leu	Ile	Leu	Ile	Val	Lys	Lys	Thr	Cys
			180					185					190		
Gly	Asn	Lys	Ser	Ser	Val	Asn	Ser	Thr	Val	Leu	Val	Lys	Asn	Thr	Lys
		195					200					205			
Lys	Thr	Asn	Pro	Glu	Met	Lys	Glu	Lys	Pro	Cys	His	Phe	Glu	Arg	Cys
		210				215					220				
Glu	Gly	Glu	Val	Asn	Thr	Arg	Phe	Ser	Leu	Lys	His				
225					230					235					

<210> 4029

<211> 909

<212> DNA

<213> Homo sapiens

<400> 4029

cggccgcctg ttttgggtgg cgctggacct gctggacctg ctggacatgc aggccagcct
 60
 gtgggagccg ccgcgctccg ggctgccgct gtgggcccag gccctcacct tcttctactg
 120
 ctacatgctg ctgctgggtgc tgccgtgctg ggcgctcagc gaggtcagca tgcagggcga
 180
 gcacatagcg ccgcagaaga tgatgctgta cccggtgctc agtctcgcca ccgtcaatgt
 240
 ggtggggccgt gctgggcgcgc gccgccaaca tggcgctggt ccgggacagc cgtgtctcgg
 300
 ccattcttctg cggaacaaac gtggtggcgc tcgccaccaa ggcctgcacc tnntcctgga
 360
 gtaccgcccgc caggtgcgcg acttcccnng ccgctgcgc tatcactgga gctgcagccg
 420
 ccacccccgc agcgcaactc ggtgcccgcg ccgcccgcgc cgctgcacgg cccgcctggg
 480
 ncgccccac atgtcctcgc ccacgcgtga cccctggac acgtgacagg gcccgcgcgg
 540
 ccccgacac gccctgggg cgagagaca ccgggttggc ttggggcgcg cgtttgcat
 600
 gggatggggg gggggcgggc tcccctaggg acaggtgect cgagtgcgcg tgcctggggg
 660
 cccgcggcgc cttcttcac tcaggaatct ctcggaccgc ggatcctcag ccccgctcc
 720
 accagcccgc cccagcgcgt ggggtctgtt gggaggcctg ggccggagca gagcagaggt
 780
 gatccggccc ctgcctgctg ggccgcccgc gttggaaggg agggcagtggt gggcggagat
 840
 ctgtccttc ggtgggggccc tctggctcag atttggggcc aaggaggcct ctgtcatttt
 900
 aaagactcg
 909

<210> 4030

<211> 169

<212> PRT

<213> Homo sapiens

<400> 4030

Arg	Pro	Pro	Val	Leu	Gly	Gly	Ala	Gly	Pro	Ala	Gly	Pro	Ala	Gly	His
1				5				10				15			
Ala	Gly	Gln	Pro	Val	Gly	Ala	Ala	Ala	Leu	Arg	Ala	Ala	Ala	Val	Gly
		20					25					30			
Arg	Gly	Pro	His	Leu	Leu	Leu	Leu	His	Ala	Ala	Ala	Gly	Ala	Ala	
		35				40					45				
Val	Arg	Gly	Ala	Gln	Arg	Gly	Gln	His	Ala	Gly	Arg	Ala	His	Ser	Ala
		50				55				60					
Ala	Glu	Asp	Asp	Ala	Val	Pro	Gly	Ala	Gln	Ser	Arg	His	Arg	Gln	Cys
65				70				75						80	
Gly	Gly	Pro	Cys	Trp	Arg	Ala	Pro	Pro	Thr	Trp	Arg	Cys	Ser	Gly	Thr
				85				90					95		
Ala	Val	Ser	Arg	Pro	Ser	Ser	Ser	Ala	Lys	Thr	Trp	Trp	Arg	Ser	Pro
		100						105					110		
Pro	Arg	Pro	Ala	Pro	Xaa	Pro	Gly	Val	Pro	Pro	Pro	Gly	Ala	Arg	Leu

	115		120		125	
Pro	Xaa	Pro	Pro	Ala	Leu	Ser
	130		135		140	
Arg	Asn	Ser	Val	Pro	Pro	Pro
145			150		155	160
Xaa	Pro	Pro	His	Val	Leu	Ala
			165			

<210> 4031

<211> 1406

<212> DNA

<213> Homo sapiens

<400> 4031

```

naagctgaga acgcatcttt agctaaactt cgcattgaac gagaaagtgc cttggaaaaa
60
ctcaggaaag aaattgcagg cttcgaacaa cagaaagcaa aagaattagc tcgaatagaa
120
gagtttaaaa aggaggagat gaggaagcta caaaaggaac gttaaagtttt tgaaaagtat
180
actacagctg caagaacttt tccagataaa aaggaacgtg aagaaatata gactttaaaa
240
cagcaaatag cagatttacg ggaagatttg aaaagaaagg agaccaaata gtcaagtaca
300
cacagccgtc tcagaagcca gatacaaatg ttagtcagag agaacacaga cctccgggaa
360
gaaataaaaag tgatggaaag attccgactg gatgcctgga agagagcaga agccatagag
420
agcagcctcg aggtggagaa gaaggacaag cttgcgaaca catctgttcg atttcaaaa
480
agtcagattt cttcaggaac ccaggtagaa aaatacaaga aaaattatct tccaatgcaa
540
ggcaatccac ctgaagatc caagtctgca cctcctcgtg atttaggcaa tttggataag
600
ggacaggctg cctctcccag ggagccactt gaaccactga acttcccaga tcctgaatat
660
aaagaggagg aggaagacca agacatacag ggagaaatca gtcacctga tggaaagggtg
720
gaaaagggtt ataagaatgg gtgccgtgtt atactgtttc ccaatggaac tcgaaaggaa
780
gtgagtgcag atgggaagac catcactgtc actttcttta atggtgacgt gaagcaggtc
840
atgccagacc aaagagtgat ctactactat gcagctgcc agaccactca cagacatac
900
ccggaggggac tggaagtctt acatttctca agtggacaaa tagaaaaaca ttaccagat
960
ggaagaaaag aaatcacgtt tcctgaccag actgttaaaa acttatttcc tgatggacaa
1020
gaagaaagca ttttcccaga tgggtacaatt gtcagagtac aacgtgatgg caacaaactc
1080
atagagttta ataatggcca aagagaacta catactgccc agttcaagag acgggaatac
1140
ccagatggca ctgttaaaac cgtatatgca aacggtcatc aagaaacgaa gtacagatcc
1200

```

ggtcggataa gagttaagga caaggagggt aatgtgctaa tggacacgga gctgtgacga
 1260
 tcctcatgtg atcatgaagt aacagtaact gactttttat gttaaaaaat gtacatttac
 1320
 tgtggattct gtttaattta ttgtgtatgt gtggggaaaa gattggattc taaaataaaa
 1380
 gtttaccctg tggcaaaaaa aaaaaa
 1406

<210> 4032

<211> 418

<212> PRT

<213> Homo sapiens

<400> 4032

Xaa	Ala	Glu	Asn	Ala	Ser	Leu	Ala	Lys	Leu	Arg	Ile	Glu	Arg	Glu	Ser
1			5					10					15		
Ala	Leu	Glu	Lys	Leu	Arg	Lys	Glu	Ile	Ala	Gly	Phe	Glu	Gln	Gln	Lys
		20					25					30			
Ala	Lys	Glu	Leu	Ala	Arg	Ile	Glu	Glu	Phe	Lys	Lys	Glu	Glu	Met	Arg
	35					40					45				
Lys	Leu	Gln	Lys	Glu	Arg	Lys	Val	Phe	Glu	Lys	Tyr	Thr	Thr	Ala	Ala
	50				55				60						
Arg	Thr	Phe	Pro	Asp	Lys	Lys	Glu	Arg	Glu	Glu	Ile	Gln	Thr	Leu	Lys
65				70				75					80		
Gln	Gln	Ile	Ala	Asp	Leu	Arg	Glu	Asp	Leu	Lys	Arg	Lys	Glu	Thr	Lys
		85					90					95			
Trp	Ser	Ser	Thr	His	Ser	Arg	Leu	Arg	Ser	Gln	Ile	Gln	Met	Leu	Val
	100						105					110			
Arg	Glu	Asn	Thr	Asp	Leu	Arg	Glu	Glu	Ile	Lys	Val	Met	Glu	Arg	Phe
	115						120					125			
Arg	Leu	Asp	Ala	Trp	Lys	Arg	Ala	Glu	Ala	Ile	Glu	Ser	Ser	Leu	Glu
	130				135					140					
Val	Glu	Lys	Lys	Asp	Lys	Leu	Ala	Asn	Thr	Ser	Val	Arg	Phe	Gln	Asn
145				150					155					160	
Ser	Gln	Ile	Ser	Ser	Gly	Thr	Gln	Val	Glu	Lys	Tyr	Lys	Lys	Asn	Tyr
		165					170						175		
Leu	Pro	Met	Gln	Gly	Asn	Pro	Pro	Arg	Arg	Ser	Lys	Ser	Ala	Pro	Pro
	180						185					190			
Arg	Asp	Leu	Gly	Asn	Leu	Asp	Lys	Gly	Gln	Ala	Ala	Ser	Pro	Arg	Glu
	195					200					205				
Pro	Leu	Glu	Pro	Leu	Asn	Phe	Pro	Asp	Pro	Glu	Tyr	Lys	Glu	Glu	Glu
	210				215						220				
Glu	Asp	Gln	Asp	Ile	Gln	Gly	Glu	Ile	Ser	His	Pro	Asp	Gly	Lys	Val
225				230					235					240	
Glu	Lys	Val	Tyr	Lys	Asn	Gly	Cys	Arg	Val	Ile	Leu	Phe	Pro	Asn	Gly
		245					250						255		
Thr	Arg	Lys	Glu	Val	Ser	Ala	Asp	Gly	Lys	Thr	Ile	Thr	Val	Thr	Phe
	260						265					270			
Phe	Asn	Gly	Asp	Val	Lys	Gln	Val	Met	Pro	Asp	Gln	Arg	Val	Ile	Tyr
	275					280					285				
Tyr	Tyr	Ala	Ala	Ala	Gln	Thr	His	Thr	Thr	Tyr	Pro	Glu	Gly	Leu	
290					295				300						
Glu	Val	Leu	His	Phe	Ser	Ser	Gly	Gln	Ile	Glu	Lys	His	Tyr	Pro	Asp

<400> 4034
Met Asn Thr Gly Ile Phe Pro Gly Trp Leu Leu Thr Ala Glu Gln Arg
1 5 10 15
Lys Ser Ile Leu Gly Ala Cys Tyr Gly Gly Ser Phe Ile Gln Phe Thr
20 25 30
Thr Ser Thr Ala Gly Pro Gln Trp Leu Pro Phe Ser Pro Thr Arg Ala
35 40 45
Leu Gly Gln Ala Ser Ser Ala Pro Val Gly Arg Leu Pro Arg Lys Thr

```

      50              55              60
Gln Ala Pro Gly Ala Ala Cys Gln Asp Gln Thr Gly Gly Leu Ala Pro
65              70              75              80
Pro Pro Ala Met Cys Gly Glu Arg Ala Ser Pro Ser Gln Ser
      85              90

```

<210> 4035
 <211> 343
 <212> DNA
 <213> Homo sapiens

<400> 4035
 nnncttaata gcagtgttat ggaattccat gtgaggcaca aacattcaga caatcctagc
 60
 aatgttcttg aatcctatgt gagggacaaa cattcagacc ccagcagcaa tgttctggaa
 120
 tcctatggga gggacaaact ctcagaaaat agcaagagta ttttggaatc ctatctgagg
 180
 tataaacact cagaacctca tagcagtgtt caggaatcct atgtgaggga caaacattca
 240
 gaccacagca ggagcattct agaatcctat ttgaggaaca aacattcaga caatcgtagc
 300
 agtgttcttg aatccttttt ttttttgaag ctttcaatct ctt
 343

<210> 4036
 <211> 114
 <212> PRT
 <213> Homo sapiens

```

<400> 4036
Xaa Leu Asn Ser Ser Val Met Glu Phe His Val Arg His Lys His Ser
 1              5              10              15
Asp Asn Pro Ser Ser Val Leu Glu Ser Tyr Val Arg Asp Lys His Ser
      20              25              30
Asp Pro Ser Ser Asn Val Leu Glu Ser Tyr Gly Arg Asp Lys Leu Ser
      35              40              45
Glu Asn Ser Lys Ser Ile Leu Glu Ser Tyr Leu Arg Tyr Lys His Ser
      50              55              60
Glu Pro His Ser Ser Val Gln Glu Ser Tyr Val Arg Asp Lys His Ser
65              70              75              80
Asp His Ser Arg Ser Ile Leu Glu Ser Tyr Leu Arg Asn Lys His Ser
      85              90              95
Asp Asn Arg Ser Ser Val Leu Glu Ser Phe Phe Phe Leu Lys Leu Ser
      100             105             110
Ile Ser

```

<210> 4037
 <211> 741
 <212> DNA
 <213> Homo sapiens

<400> 4037


```
<210> 4038
<211> 134
<212> PRT
<213> Homo sapiens
```

```
<210> 4039
<211> 1503
```

<212> DNA

<213> Homo sapiens

<400> 4039

gcgagcgccg ggaacgagca ccaccagggc tggagcggac ggctttagaa gagcctagct
60
gctgcgcgcg tcggagagggc tcctggggaa actcccacgg cccagggact ttcgaaagca
120
gagcgaggag ccctcgacg cgctagtctg cgagtgcgag ctcagcccgg cacctgttcc
180
tccagcgccg ccgccttccc acccctcgga ccgcgcgcgc tcgcggcgcc cgcctgttcc
240
tgcgatgaat ccggccctag gcaaccagac ggacgtggcg ggcccttctg gccaacagca
300
gcgagggcgt ggagcgagcc gtgcgctgct gcaccagggc gtccgtgggt accgacgacg
360
gcttcgcgga gggaggcccg gacgagcgta gcctgtacat aatgcgcgtg gtgcagatcg
420
cgggtcatgtg cgtgctctca ctaccgtgg tcttcggcat cttcttcttc ggctgcaatc
480
tgctcatcaa gtccgagggc atgatcaact tcctcgtgaa ggaccggagg ccgtctaagg
540
aggtggaggc ggtggctgtg gggccctact gaccgcctct ctgccccgc ggcaaccgt
600
cccacgcctg cccactttgc tagcccggt gtgcccctca ctatcagaga ctgggcgaag
660
caaacctgtc ggagtcaatt atttctctcg acttcggcct ttcggaaaga agcgaccggt
720
ttctccctcg ccctctgaaa gtccctcatg ctggcagtcg gaggagagcg cccagactct
780
gaactcagca gaaagtggca agaagagggc gattagggcg cagaactttg gaagctgcta
840
cttacttgga atgcggggag accgacggtg cgaaggccct tctccaccg caggtggggc
900
aagctctggg ggcaggtgga gagggcgggc aggggagaga cccagcggca ctgatcgct
960
tgtgaccgga agagtgcct gttaaaagcc acgcagcaga ctcatgggtg ctcacaaatc
1020
cgtgtccggg tgcgctccca ctcttctct gctcccccc tgcccctgga ggggaggggc
1080
gataaatacc tttgattgta acgtgccgtt ttaagaggtt ttgtgtttgt ttgcttgaat
1140
acaaatgttt gataagtctt tttctgcccc agtggcctgt ttgcctgcct gaggagttac
1200
agttttgtca ttgtggaaga aggggtgggg ggagggggag cctgcgaatt tgaacgggg
1260
gagttgtttc ttttagtgca tttccactg ggtcttttgg gaggcgtcta gcgttctgc
1320
tggccctggg acaaagaccc agaatagaac tcgtagctcg tgactgcacg gtttacgcc
1380
caaaagtgtc cttgacatcc gtgacaccgt tttgactttt tgtttttttc ttatttaaca
1440
tttccttaat aaatgcaaca ttttagcgtt aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa
1500

aaa
1503

<210> 4040
<211> 100
<212> PRT
<213> Homo sapiens

<400> 4040
Lys Ser Leu Ala Ala Ala Arg Val Gly Glu Ala Pro Gly Glu Thr Pro
1 5 10 15
Thr Ala Gln Gly Leu Ser Lys Ala Glu Arg Gly Ala Leu Ala Arg Ala
20 25 30
Ser Leu Arg Val Ser Ala Gln Pro Gly Thr Cys Ser Ser Ser Ala Ala
35 40 45
Ala Phe Pro Pro Leu Gly Pro Ala Pro Leu Ala Ala Pro Ala Arg Ser
50 55 60
Cys Asp Glu Ser Gly Pro Arg Gln Pro Asp Gly Arg Gly Gly Pro Ser
65 70 75 80
Trp Pro Thr Ala Ala Arg Arg Trp Ser Glu Pro Cys Ala Ala Ala Pro
85 90 95
Arg Arg Pro Trp
100

<210> 4041
<211> 573
<212> DNA
<213> Homo sapiens

<400> 4041
gatcttattg aggaacgagc catctatctt gatggagact ttgggtcagat tgttcgatat
60
ggtgagattc cagctgaatt aagggcggcg gccactgacc accggcagga gctaattgaa
120
tgtgttgcca attcagatga acagcttggt gagatgtttc tggaagaaaa aatccccctcg
180
atttctgatt taaagctagc aattcgaaga gctactctga aaagatcatt tactcctgta
240
tttttgggaa ggccttgaa gaacaaagga gttcagcctc ttttagatgc tgttttagaa
300
tacctcccaa atccatctga agtcagaac tatgctattc tcaataaaga ggatgactca
360
aaagagaaaa ccaaaatcct aatgaactcc agtagagaca attcccaccc atttgtaggc
420
ctggctttta aactggaggt aggtcgattt ggacaattaa cttatgttcg cagttatcag
480
ggagagctaa agaagggtga caccatctat aacacaagga caagaaagaa agtacgggtg
540
caacggctgg ctgcgatgca tgccgacatg atg
573

<210> 4042
<211> 191
<212> PRT

<213> Homo sapiens

<400> 4042

Asp Leu Ile Glu Glu Arg Ala Ile Tyr Phe Asp Gly Asp Phe Gly Gln
 1 5 10 15
 Ile Val Arg Tyr Gly Glu Ile Pro Ala Glu Leu Arg Ala Ala Thr
 20 25 30
 Asp His Arg Gln Glu Leu Ile Glu Cys Val Ala Asn Ser Asp Glu Gln
 35 40 45
 Leu Gly Glu Met Phe Leu Glu Glu Lys Ile Pro Ser Ile Ser Asp Leu
 50 55 60
 Lys Leu Ala Ile Arg Arg Ala Thr Leu Lys Arg Ser Phe Thr Pro Val
 65 70 75 80
 Phe Leu Gly Ser Ala Leu Lys Asn Lys Gly Val Gln Pro Leu Leu Asp
 85 90 95
 Ala Val Leu Glu Tyr Leu Pro Asn Pro Ser Glu Val Gln Asn Tyr Ala
 100 105 110
 Ile Leu Asn Lys Glu Asp Asp Ser Lys Glu Lys Thr Lys Ile Leu Met
 115 120 125
 Asn Ser Ser Arg Asp Asn Ser His Pro Phe Val Gly Leu Ala Phe Lys
 130 135 140
 Leu Glu Val Gly Arg Phe Gly Gln Leu Thr Tyr Val Arg Ser Tyr Gln
 145 150 155 160
 Gly Glu Leu Lys Lys Gly Asp Thr Ile Tyr Asn Thr Arg Thr Arg Lys
 165 170 175
 Lys Val Arg Leu Gln Arg Leu Ala Arg Met His Ala Asp Met Met
 180 185 190

<210> 4043

<211> 744

<212> DNA

<213> Homo sapiens

<400> 4043

nntgcctggc ccagtcctc cgcctcggc ccaacatgga cttcagagaa attctcatga
 60
 tagcttccaa gggacaaggt gtcaacaatg tgccgaaaag ggatagttgg ccagtggggc
 120
 ctcccaaaaa aagacccaaa agttaaaggt gtccaatcag cagctgtaca agcttttctt
 180
 aaaaggaaa aagaggagct gagacgaaaa gccttagagg agaaaaggag aaaagaggaa
 240
 ctagtgaaaa agcgaattga gctcaaact gacaagaaa caagagctat ggccaagagg
 300
 acaaaggata atttccatgg ttacaatggg attcctattg aggaaaagtc aaagaagagg
 360
 caggcaacag aaagccatac cagccaagga accgaccgag agtatgaaat ggaagaagag
 420
 aatgaattcc tcgagtacaa tcacgcagag tcagagcagg agtatgagga agagcaagaa
 480
 cctcccaaag ttgaaagcaa accaaagggt tcccttaaag gtgccccacc acctatgaac
 540
 ttcactgatt tactcaggct ggctgagaaa aagcagtttg aaccagtgga aatcaaggta
 600

gtgaagaaat cagaagagcg acctatgacc gcagaagaac ttagggagcg agaattcctt
 660
 gaacgaaagc ataggagaaa aaaacttgag acagatggaa aactacctcc aactgtgtcc
 720
 aaaaaggcac ctctcgagcg gaag
 744

<210> 4044
 <211> 219
 <212> PRT
 <213> Homo sapiens

<400> 4044
 Met Cys Arg Lys Gly Ile Val Gly Gln Trp Gly Leu Pro Lys Lys Asp
 1 5 10 15
 Pro Lys Val Lys Gly Val Gln Ser Ala Ala Val Gln Ala Phe Leu Lys
 20 25 30
 Arg Lys Glu Glu Glu Leu Arg Arg Lys Ala Leu Glu Glu Lys Arg Arg
 35 40 45
 Lys Glu Glu Leu Val Lys Lys Arg Ile Glu Leu Lys His Asp Lys Lys
 50 55 60
 Ala Arg Ala Met Ala Lys Arg Thr Lys Asp Asn Phe His Gly Tyr Asn
 65 70 75 80
 Gly Ile Pro Ile Glu Lys Ser Lys Lys Arg Gln Ala Thr Glu Ser
 85 90 95
 His Thr Ser Gln Gly Thr Asp Arg Glu Tyr Glu Met Glu Glu Glu Asn
 100 105 110
 Glu Phe Leu Glu Tyr Asn His Ala Glu Ser Glu Gln Glu Tyr Glu Glu
 115 120 125
 Glu Gln Glu Pro Pro Lys Val Glu Ser Lys Pro Lys Val Ser Leu Lys
 130 135 140
 Gly Ala Pro Pro Pro Met Asn Phe Thr Asp Leu Leu Arg Leu Ala Glu
 145 150 155 160
 Lys Lys Gln Phe Glu Pro Val Glu Ile Lys Val Val Lys Lys Ser Glu
 165 170 175
 Glu Arg Pro Met Thr Ala Glu Glu Leu Arg Glu Arg Glu Phe Leu Glu
 180 185 190
 Arg Lys His Arg Arg Lys Lys Leu Glu Thr Asp Gly Lys Leu Pro Pro
 195 200 205
 Thr Val Ser Lys Lys Ala Pro Leu Gly Arg Lys
 210 215

<210> 4045
 <211> 2217
 <212> DNA
 <213> Homo sapiens

<400> 4045
 ngtagctaca gtacatactg atgagtgaag aatgggttgc tttgggaata ttttcttagt
 60
 ttttcaagga catgatgtgg aagtcttgac ttgagtaact tcaatagcac taacaacagg
 120
 aattgaaaaa aacttagaat tttaaagctg agaaagagtt atcgctgtga tgattttgtg
 180

gttaatgaca ccaagctggg actggtacag aaagtcagag aacacttaca gaacttgga
240
aactcagctt tcacagctga caggcataag aaaagaaaac ttttgaaaa ctcaacacta
300
aacagcaagt tattaanaagt aaatggaagc accactgcca tttgtgccac aggccttcgg
360
aatttgggga acacatgttt catgaatgcc atccttcagt cactcagtaa cattgagcag
420
ttttgctgtt atttcaaaga actgcccgcc gtggagttaa ggaatgggaa aacagcagga
480
aggcggacat accacaccag gagccaaggg gataacaatg tgtcttttgt agaagagttt
540
agaaagacac tctgtgcttt atggcaaggc agccagactg catttagccc agagtcctta
600
ttttatgttg tttggaagat tatgccaac tttaggggt atcaacagca ggacgccc
660
gaattcnatg cgctaccttt tggaccacct acacttggan acttcagggc ggtttcaacg
720
gtgtttcccg ctacgaatt ctgcaggaga attctactct gtctgcaagt anacaagtgt
780
tgcataaatg gagcatctac tgttgtcacg gctatatctg gaggcattct ccaaatgag
840
gttaactgcc tcatatgttg gacagaatct agaaagtttg atccattcct agacctttca
900
ttagatattc caagtcagtt cagaagtaag cgctctaaga atcaagaaaa tggaccagtt
960
tgttcggtac gagattgtct tcgcagtttt accgacttag aagaacttga tgagacagag
1020
ttatatatgt gccataaatg caaanagaaa caaaagtcca caaaaaagtt ttggattcaa
1080
aaactacca aggtgctatg cttacatttg aaaagatttc attggacagc atatttaaga
1140
aataaagttg atacatacgt agaatttcca ctgagaggcc tagacatgaa atgctactta
1200
ctagatcctg agaacagtgg cccggagagc tgctgtatg acctcgccgc tgtggtggtg
1260
caccatggtt ccggggttg ttctggacat tacacagcat acgcaactca cgaaggccgc
1320
tggttccact tcaatgacag tactgtaaca ctgactgacg aagagactgt ggtgaaggcg
1380
aaggctaaca tccttttcta cgtggaacac caggccaaag ctggatcgga taaacttta
1440
tacctcctcc aaatcatcat tcaccaacca taccagagaa acatttcag tttccacaa
1500
atacttgata caagatttaa tttcattatg cacttttcaa tttctatatt tggatttagt
1560
tttgtaaatg gtagtgactt actgaacatg ggcaccaact aattttgttg ttgttctacc
1620
agaaaacctc agcagatgtt ttgatttgct gctttagtgt taataattca atttttatag
1680
gtagttgtaa gaacttagtc ttatttgact tttttatttt atgttaatgt tttcagttct
1740
cactttgagg cacatttaca tcaatgcttt tgttcctctc acatgctgaa agcaagatgt
1800

gttccttatt gtgaagagcg acacaactgc ctgctgcctt tccacagcta taatggacat
 1860
 caggttgact ctaaatacaag gatcatgtgt gcacaatact tgtggccac aaaatttcac
 1920
 aatgactgct gaggaatcat tctttttgcc tgtaaaaatat aacaaagggc atcattaagt
 1980
 agaccaggta attactgctt gtctctcaag gctgctgtct ttatcagcac taactaaata
 2040
 aatttggttg ttcagttgta cttgtcctgc aaatacaaga attactctct ttgttggtt
 2100
 ttttggtttt ggggcatact tgtttgcggg gaggtaagat gggagtaaag accaaatata
 2160
 tgtaatgttt aaaaaaatg ctgtgactcc ctgacatggt ataggtgtta ccagtga
 2217

<210> 4046

<211> 437

<212> PRT

<213> Homo sapiens

<400> 4046

Lys Lys Leu Arg Ile Leu Lys Leu Arg Lys Ser Tyr Arg Cys Asp Asp
 1 5 10 15
 Phe Val Val Asn Asp Thr Lys Leu Gly Leu Val Gln Lys Val Arg Glu
 20 25 30
 His Leu Gln Asn Leu Glu Asn Ser Ala Phe Thr Ala Asp Arg His Lys
 35 40 45
 Lys Arg Lys Leu Leu Glu Asn Ser Thr Leu Asn Ser Lys Leu Leu Lys
 50 55 60
 Val Asn Gly Ser Thr Thr Ala Ile Cys Ala Thr Gly Leu Arg Asn Leu
 65 70 75 80
 Gly Asn Thr Cys Phe Met Asn Ala Ile Leu Gln Ser Leu Ser Asn Ile
 85 90 95
 Glu Gln Phe Cys Tyr Phe Lys Glu Leu Pro Ala Val Glu Leu Arg
 100 105 110
 Asn Gly Lys Thr Ala Gly Arg Arg Thr Tyr His Thr Arg Ser Gln Gly
 115 120 125
 Asp Asn Asn Val Ser Leu Val Glu Glu Phe Arg Lys Thr Leu Cys Ala
 130 135 140
 Leu Trp Gln Gly Ser Gln Thr Ala Phe Ser Pro Glu Ser Leu Phe Tyr
 145 150 155 160
 Val Val Trp Lys Ile Met Pro Asn Phe Arg Gly Tyr Gln Gln Gln Asp
 165 170 175
 Ala His Glu Phe Xaa Ala Leu Pro Phe Gly Pro Pro Thr Leu Gly Xaa
 180 185 190
 Phe Arg Ala Val Ser Thr Val Phe Pro Ala Gln Gln Phe Cys Arg Arg
 195 200 205
 Ile Leu Leu Cys Leu Gln Val Xaa Lys Cys Cys Ile Asn Gly Ala Ser
 210 215 220
 Thr Val Val Thr Ala Ile Phe Gly Gly Ile Leu Gln Asn Glu Val Asn
 225 230 235 240
 Cys Leu Ile Cys Gly Thr Glu Ser Arg Lys Phe Asp Pro Phe Leu Asp
 245 250 255
 Leu Ser Leu Asp Ile Pro Ser Gln Phe Arg Ser Lys Arg Ser Lys Asn

	260		265		270										
Gln	Glu	Asn	Gly	Pro	Val	Cys	Ser	Leu	Arg	Asp	Cys	Leu	Arg	Ser	Phe
	275						280					285			
Thr	Asp	Leu	Glu	Glu	Leu	Asp	Glu	Thr	Glu	Leu	Tyr	Met	Cys	His	Lys
	290						295					300			
Cys	Lys	Xaa	Lys	Gln	Lys	Ser	Thr	Lys	Lys	Phe	Trp	Ile	Gln	Lys	Leu
305					310					315					320
Pro	Lys	Val	Leu	Cys	Leu	His	Leu	Lys	Arg	Phe	His	Trp	Thr	Ala	Tyr
			325						330					335	
Leu	Arg	Asn	Lys	Val	Asp	Thr	Tyr	Val	Glu	Phe	Pro	Leu	Arg	Gly	Leu
	340							345					350		
Asp	Met	Lys	Cys	Tyr	Leu	Leu	Asp	Pro	Glu	Asn	Ser	Gly	Pro	Glu	Ser
	355						360					365			
Cys	Leu	Tyr	Asp	Leu	Ala	Ala	Val	Val	Val	His	His	Gly	Ser	Gly	Val
	370						375					380			
Gly	Ser	Gly	His	Tyr	Thr	Ala	Tyr	Ala	Thr	His	Glu	Gly	Arg	Trp	Phe
385					390					395					400
His	Phe	Asn	Asp	Ser	Thr	Val	Thr	Leu	Thr	Asp	Glu	Glu	Thr	Val	Val
			405						410					415	
Lys	Ala	Lys	Ala	Asn	Ile	Leu	Phe	Tyr	Val	Glu	His	Gln	Ala	Lys	Ala
	420						425					430			
Gly	Ser	Asp	Lys	Leu											
	435														

<210> 4047

<211> 809

<212> DNA

<213> Homo sapiens

<400> 4047

gcagttaaca ttacaaggcc ctagaagtaa tacacatcgc aattcaagtc tgtattcttg
60
aactttttccc ctgttactgt gaagaagagt atcatggggtc catttaatct ttgattactg
120
cctaaaagca ttcattgccc cagtagttct taattgtctt ggaaatcatt ctcttgcaaa
180
cttcacattt ccatatcata ctttacttta cgctattact tcatgggctc ctgggcattt
240
ggtctgtttg tgtttctcct ttcctctttg aacaaagtca ggaaaaatgt gtcagtagga
300
gaaaggagga gctgaaggga gtaaataatt caagatcact tctgtcattt gtagtggctg
360
agggtctagaa agatattctt cgggtgaagaa actcccaaca gggtccatca gactgatata
420
acttcagggg ggccaccctc tgcagatggc agtgaatttg cacctgtttg tggtagcaggc
480
actaccacag catctttgat gtctgtgttt acattacatg agaagttctt ctccagtttt
540
ttggcagtg ctgggcaatt ttgtacaaag atcacacggg ttaggcctt cagcctgcgc
600
cacaactgaa catagacttt aactgtacg tacatgaaga caagacctcc tgtgaagcca
660
atggctacca caaccagttt tgtccaaaat ggccattcaa ggacacctt gaaatgaaaa
720

agagaaaatg ttatcaccaa gttgtcctca gtggatttgg tcattttttt ttcctatgac
 780
 ccttcaaagg cccgtgcttg ccttctaga
 809

<210> 4048
 <211> 118
 <212> PRT
 <213> Homo sapiens

<400> 4048
 Met Thr Lys Ser Thr Glu Asp Asn Leu Val Ile Thr Phe Ser Leu Phe
 1 5 10 15
 His Phe Lys Gly Val Leu Glu Trp Pro Phe Trp Thr Lys Leu Val Val
 20 25 30
 Val Ala Ile Gly Phe Thr Gly Gly Leu Val Phe Met Tyr Val Gln Cys
 35 40 45
 Lys Val Tyr Val Gln Leu Trp Arg Arg Leu Lys Ala Tyr Asn Arg Val
 50 55 60
 Ile Phe Val Gln Asn Cys Pro Asp Thr Ala Lys Lys Leu Glu Lys Asn
 65 70 75 80
 Phe Ser Cys Asn Val Asn Thr Asp Ile Lys Asp Ala Val Val Val Pro
 85 90 95
 Val Pro Gln Thr Gly Ala Asn Ser Leu Pro Ser Ala Glu Gly Gly Pro
 100 105 110
 Pro Glu Val Val Ser Val
 115

<210> 4049
 <211> 1211
 <212> DNA
 <213> Homo sapiens

<400> 4049
 nncctaagtg acccttctca ggacctgcag ttcattgtgg ccggggatga gtgtgtctac
 60
 ttgtaccagc ctgatgaacg tgggccctgc ttgcctttg agggccataa gtcattgccc
 120
 cactggttta gaggtacct tatcattgtc tcccgtgacc ggaaggtttc tcccaagtca
 180
 gagtttacca gcagggattc acagagctcc gacaagcaga ttctaaacat ctatgacctg
 240
 tgcaacaagt tcatagccta tagcaccgtc tttgaggatg tagtggatgt gcttgctgag
 300
 tggggctccc tgtactgtct gacgcgggat gggcgggtcc acgcactgca ggagaaggac
 360
 acacagacca aactggagat gctgtttaag aagaacctat ttgagatggc gattaacctt
 420
 gccaaagacc agcatctgga cagtgatggg ctggcccaga ttttcatgca gtatggagac
 480
 catctctaca gcaagggcaa ccacgatggg gctgtccagc aatatatccg aaccattgga
 540
 aagttggagc catcctacgt gatccgcaag tttctggatg cccagcgcac tcacaacctg
 600

actgcctacc tgcagacct gcaccgacaa tccctggcca atgccgacca taccacctg
 660
 ctctcaact gctataccaa gctcaaggac agctcgaagc tggaggagtt catcaagaaa
 720
 aagagtgaga gtgaagtcca ctttgatgtg gagacagcca tcaaggctct cggcagggt
 780
 ggctactact cccatgcctt gtatctggcg gagaacctg cacatcatga gtggtacctg
 840
 aagatccagc tagaagacat taagaattat caggaagccc ttcgatacat cggcaagctg
 900
 ccttttgagc aggcagagag caacatgaag cgctacggca agatcctcat gcaccacata
 960
 ccagagcaga caactcagtt gctgaaggga ctttgactg attatcggcc cagcctcgaa
 1020
 ggccgcagcg atagggaggc cccaggctgc agggccaact ctgaggagtt catccccatc
 1080
 tttgccaata acccgcgaga gctgaaagcc ttcctagagc acatgagtga agtgcagcca
 1140
 gactaccccc aggggatcta cgacacactc cttgagctgc gactgcagaa ctggggccca
 1200
 gagaaggatc c
 1211

<210> 4050

<211> 403

<212> PRT

<213> Homo sapiens

<400> 4050

Xaa	Leu	Ser	Asp	Pro	Ser	Gln	Asp	Leu	Gln	Phe	Ile	Val	Ala	Gly	Asp
1			5						10					15	
Glu	Cys	Val	Tyr	Leu	Tyr	Gln	Pro	Asp	Glu	Arg	Gly	Pro	Cys	Phe	Ala
		20						25					30		
Phe	Glu	Gly	His	Lys	Leu	Ile	Ala	His	Trp	Phe	Arg	Gly	Tyr	Leu	Ile
		35					40					45			
Ile	Val	Ser	Arg	Asp	Arg	Lys	Val	Ser	Pro	Lys	Ser	Glu	Phe	Thr	Ser
		50				55					60				
Arg	Asp	Ser	Gln	Ser	Ser	Asp	Lys	Gln	Ile	Leu	Asn	Ile	Tyr	Asp	Leu
65				70						75				80	
Cys	Asn	Lys	Phe	Ile	Ala	Tyr	Ser	Thr	Val	Phe	Glu	Asp	Val	Val	Asp
			85						90					95	
Val	Leu	Ala	Glu	Trp	Gly	Ser	Leu	Tyr	Val	Leu	Thr	Arg	Asp	Gly	Arg
		100						105					110		
Val	His	Ala	Leu	Gln	Glu	Lys	Asp	Thr	Gln	Thr	Lys	Leu	Glu	Met	Leu
		115					120					125			
Phe	Lys	Lys	Asn	Leu	Phe	Glu	Met	Ala	Ile	Asn	Leu	Ala	Lys	Ser	Gln
		130					135					140			
His	Leu	Asp	Ser	Asp	Gly	Leu	Ala	Gln	Ile	Phe	Met	Gln	Tyr	Gly	Asp
145				150						155				160	
His	Leu	Tyr	Ser	Lys	Gly	Asn	His	Asp	Gly	Ala	Val	Gln	Gln	Tyr	Ile
			165					170						175	
Arg	Thr	Ile	Gly	Lys	Leu	Glu	Pro	Ser	Tyr	Val	Ile	Arg	Lys	Phe	Leu
		180						185					190		
Asp	Ala	Gln	Arg	Ile	His	Asn	Leu	Thr	Ala	Tyr	Leu	Gln	Thr	Leu	His

195	200	205
Arg Gln Ser Leu Ala Asn Ala Asp His Thr Thr Leu Leu Leu Asn Cys		
210	215	220
Tyr Thr Lys Leu Lys Asp Ser Ser Lys Leu Glu Glu Phe Ile Lys Lys		
225	230	235
Lys Ser Glu Ser Glu Val His Phe Asp Val Glu Thr Ala Ile Lys Val		
245	250	255
Leu Arg Gln Ala Gly Tyr Tyr Ser His Ala Leu Tyr Leu Ala Glu Asn		
260	265	270
His Ala His His Glu Trp Tyr Leu Lys Ile Gln Leu Glu Asp Ile Lys		
275	280	285
Asn Tyr Gln Glu Ala Leu Arg Tyr Ile Gly Lys Leu Pro Phe Glu Gln		
290	295	300
Ala Glu Ser Asn Met Lys Arg Tyr Gly Lys Ile Leu Met His His Ile		
305	310	315
Pro Glu Gln Thr Thr Gln Leu Leu Lys Gly Leu Cys Thr Asp Tyr Arg		
325	330	335
Pro Ser Leu Glu Gly Arg Ser Asp Arg Glu Ala Pro Gly Cys Arg Ala		
340	345	350
Asn Ser Glu Glu Phe Ile Pro Ile Phe Ala Asn Asn Pro Arg Glu Leu		
355	360	365
Lys Ala Phe Leu Glu His Met Ser Glu Val Gln Pro Asp Ser Pro Gln		
370	375	380
Gly Ile Tyr Asp Thr Leu Leu Glu Leu Arg Leu Gln Asn Trp Ala His		
385	390	395
Glu Lys Asp		400

<210> 4051
 <211> 1645
 <212> DNA
 <213> Homo sapiens

<400> 4051
 tttttttttt tttttttttt ttttttagag tcatgacctt atttatttac aagcacagga
 60
 taagtcccta acctcccca aagactgagc aacctaccc agcccagtta aatactgcaa
 120
 ctgggggggt aaaaaaggtc gggaggagga attaaggga atacaggaat aggggaacat
 180
 atccacatt aaatagttat atatatacac atcagttcct gtggttctgt acagagcagc
 240
 ggctgacccc accccacag gacacaatgt ggggagagga gactgagggt actgaggcca
 300
 gagccaacct ctggtgaagt gcaatagcag cagcaaagtc ctaatggtgc acaagagggg
 360
 ggggaacccc cagggtctacc caccaccacc ctgccctgga atgtgtaagg gacaggaatg
 420
 gctctcaggg agcacacagg aaggacaagg ctggaaccgt cttcagggcc cagttttaag
 480
 ggcaacgttt tgcctacttc accctagaca cagcaaccct tggaggaaag cagatggtca
 540
 gcagtgtct tctctgcccc tccaaaccta agtgaggggc tggttccttc ctacctctcc
 600

ccagggaataa ggaaggcagc tgcttggtt ccttctagaa gcccgggag cctttaacta
 660
 cccagctcc cttcgtagtgc tctctgtccc caccaggag gggccaggca cagtctgtgg
 720
 gtcacagggc tcaggagaag ttctggacag ggtggctgac cttcatacag gccaataaa
 780
 gagcccgcc caaacacagc acagccaaca ggatgacaaa tgcccaggct gcatagatgc
 840
 ctccatctcg ccgtgcatgc ttccatgtgc caaaggcaag gccagtggca gtgactgcca
 900
 aaagcaagcc aagcaagaag cagcagatac atctcttacg tgggtatctg cgccaatag
 960
 atgacacttt cctgcagtga ggacaacgtg ccaaagtgcg gtctgtgaac tctgtccaca
 1020
 gaaaagtatt cttgcaatgt ccacagataa ccctgacacc catgggttgg ggttctggac
 1080
 tcagaggtcc gggatgcaca ggccccagggt tgatgattct tttgcagtag ggccgagggc
 1140
 atgcaatccg ttgggatgtc actttgcaga taaggagaca gttacagggg catcgaacat
 1200
 attttttccc ctgggggtgc attcttgatt ggggtggctt cattgcagac accacatttg
 1260
 actacatgct gatgcatctt gccttcacag ttgatgagag attggcagac tcggcaggtg
 1320
 atcatagggg cactcccact gtccgggcta gttaagggtg aatagggggg tgggtcctcc
 1380
 ccaggcaaca cggctggatg cccctcggga aacgggggaa atgcctgggg cggggcatgt
 1440
 ttaccggctc cgtacgggtg tgccggagggg gtcaggcctc ccccgggccc agccccactc
 1500
 ccgcccggcc ccactaaacc gttccgccc gcgccaccgt cgatgggctc agacagcagc
 1560
 ggggaacgct ctccatctcc gccatggccg ccaccgccc ctcccgtca ggtcggcgat
 1620
 ccggtccct tcgctctgc cgtcg
 1645

<210> 4052

<211> 93

<212> PRT

<213> Homo sapiens

<400> 4052

Gly	Gly	Gly	Ser	Ser	Pro	Gly	Asn	Thr	Ala	Gly	Cys	Pro	Ser	Gly	Asn
1				5					10					15	
Gly	Gly	Asn	Ala	Trp	Gly	Gly	Ala	Cys	Leu	Pro	Ala	Pro	Tyr	Gly	Gly
		20					25				30				
Ala	Glu	Gly	Val	Arg	Pro	Pro	Pro	Gly	Pro	Ala	Pro	Leu	Pro	Pro	Gly
		35					40				45				
Pro	Thr	Lys	Pro	Leu	Pro	Pro	Ala	Pro	Pro	Ser	Met	Gly	Ser	Asp	Ser
	50					55				60					
Ser	Gly	Glu	Arg	Ser	Pro	Ser	Pro	Pro	Trp	Pro	Pro	Pro	Pro	Pro	Pro
65				70				75						80	
Ala	Gln	Val	Gly	Asp	Pro	Ala	Pro	Phe	Ala	Ser	Ala	Val			

85

90

<210> 4053
 <211> 461
 <212> DNA
 <213> Homo sapiens

<400> 4053
 gcagaatctt attttgagat acagtcccct cccaccctg ggggactagg ggtactaggg
 60
 agcgtctcat tcttctctcc tgagttccgg aatccacctc cgagagcgca gtctccaggg
 120
 tttcagcagc caggcaggcg ctcggcgaga agggtttctg gaattcgagc gatgcggctt
 180
 tgctcaccag ggagccagcc cgggaccag aacttacacc cgggaccccg cgagtacagg
 240
 acaccggtgg ggacaggaat tatccccgc ccaggaggca ctgagaccct gcgggaggcg
 300
 tgcgcggccc taggggaggg gaggggaggg agccgccact cgtgtccgcg gagagttggg
 360
 aggcggtcgg ttttgaaagg cggccagggg agctttgtgc tgaaccggga gggccagatt
 420
 tactccctcg ggccttccgg agtcgtgcc cgggaacgcg t
 461

<210> 4054
 <211> 96
 <212> PRT
 <213> Homo sapiens

<400> 4054
 Met Arg Leu Cys Ser Pro Gly Ser Gln Pro Gly Thr Gln Asn Leu His
 1 5 10 15
 Pro Gly Pro Arg Glu Tyr Arg Thr Pro Val Gly Thr Gly Ile Ile Pro
 20 25 30
 Arg Pro Gly Gly Thr Glu Thr Leu Arg Glu Ala Cys Ala Ala Leu Gly
 35 40 45
 Glu Gly Arg Gly Gly Ser Arg His Ser Cys Pro Arg Arg Val Gly Arg
 50 55 60
 Arg Ser Val Leu Lys Gly Gly Gln Gly Ser Phe Val Leu Asn Arg Glu
 65 70 75 80
 Gly Gln Ile Tyr Ser Leu Gly Pro Ser Gly Val Ala Ala Arg Glu Arg
 85 90 95

<210> 4055
 <211> 8458
 <212> DNA
 <213> Homo sapiens

<400> 4055
 tgtacccgaa ggattggttg ggtagatgga gctataaaag cactttgtaa tcgtttggtt
 60
 gtagttgaac ttaacaacag gactagcaga gacttacctg aacagtgtgt aaaggtatta
 120

taactgatat gtactcgtga gtcaagagca gtctttgagg ctggtgggtt gaattgtgtg
180
cttaccttca ttcgcgacag gggacatcta ggtcataaag acaccttgca ctctgctatg
240
gctgtggtat caagactctg tggctaaatg gagcctcaag attcttcttt agaaaattgt
300
gtagagtctc tgtctagttt attaaagcat gaagatcatc aggtttcaga tggagctctg
360
cgggtgtttg catcactagc tgaccgggtt acccgctcgtg gggtagaccc agctccattg
420
gccaaagcatg gattaactga ggagctgttg tctcgaatgg cagcggctgg tggtagctga
480
tcaggaccat catcagcatg caaaccaggt cgcagcacca caggagcccc atccaccact
540
gcagattcca aattgagtaa tcagggtgtc acaattgtaa gtctgctctc aacgctttgc
600
agaggctctc cggtagtaac acatgatctt ctgaggtcgg agcttcacaga ttcaattgaa
660
agtgcattgc agggtagatg aagatgtgtg cttgatacta tgcgtttggt tgaccttctc
720
ttggtgctat tatttgaagg acgaaaagct ttgccaaagt ctagtgctgg atctacaggc
780
agaatcccag gactccggag attagatagt tctggggagc gctcacatcg gcagcttata
840
gattgtattc gaagtaaaga taccgatgca cttatagatg caattgacac aggagccttt
900
gaagtaaatt ttatggatga tgtaggtcag actctattaa actgggcctc tgcttttgga
960
actcaggaaa tggtagaatt tctttgtgag agaggtgcag atgttaatag aggtcaaagg
1020
tcatcatcat tacattatgc tgcattgttt ggaagacctc aagtagcaaa gactctgtta
1080
cggcatgggtg caaatccaga tctgagagat gaagatggga aaactccatt agataaagct
1140
cgagaaaggg gccatagtga agtggttagct attcttcagt ctccagggtga ttggatgtgt
1200
ccagttaata aaggagatga taagaaaaag aaagatacaa acaaagatga agaagaatgt
1260
aatgagccca aaggagatcc ggaaatggca cccatatact tgaaaagggtt attgccagt
1320
tttgcaaaa catttcagca aactatgctg ccttcaataa ggaaagcaag tcttgctcta
1380
attcgaaaaa tgattcattt ttgctctgaa gcactgttaa aagaagtttg tgattctgat
1440
gttggtcaca atttgcctac aatactagtg gaaatcactg caactgtcct ggatcaagag
1500
gatgatgatg atggccactt gctggctttg cagatcataa gggatttagt agataaagg
1560
ggtgatatat ttttgatca gctagccaga cttggtgtaa ttagcaaagt gtcaacgttg
1620
gcaggctcct cctctgatga tgagaatgaa gaggaatcaa aaccagaaaa agaagatgaa
1680
ccacaggaag atgctaaaga attgcaacaa ggtaaaccat atcattggag agactgggtca
1740

atcattaggg gaagggactg cttatatatt tggagtgatg cagcagcctt ggaattatct
1800
aatggcagta atggatgggt cagatttatc ttggatggaa aacttgccac catgtattca
1860
agtggtagtc cggaaggtgg atctgacagt tcagaaagcc gaagtgaatt cttagagaag
1920
ttacaaagag ctcgaggcca agtaaagcca tctacttcaa gtcaacctat actgtcagca
1980
ccaggaccca ctaaacttac tgtaggaaat tggtcactga catgtttgaa agaaggagaa
2040
attgctattc ataattcaga tggtcagcaa gctacaatat tgaaagaaga tttacctggt
2100
tttgtatttg aatctaatag aggaacccaa cattcattta ctgcagaaac ttccttgggt
2160
tcagaatttg tgactggctg gactggcaaa agaggcagaa aactgaaatc taagttagaa
2220
aaaacaaagc anaaggtacg aactatggct cgagatttat acgatgacca ttttaaagct
2280
gttgaaagca tgcctcgtgg agtagtggta acactcagaa acatagcaac tcagttagag
2340
tcattctggg aacttcatac aaatagacaa tgtattgaga gtgagaacac ttggagagat
2400
ttaatgaaga cagctttaga aaacctaat gtacttttga aggatgaaaa cacaatttca
2460
ccatatgaaa tgtgtagcag tggcttggtg caagcacttc ttactgtggt aaacaatagc
2520
atggatttgg atatgaaaca agattgtagt caactggtag aaagaataaa tgttttttaa
2580
actgccttta gtgaaaatga agatgatgaa agtcgaccag cagttgcgtt aattcgaaag
2640
ttaatagctg tactagaatc tattgaacgt ctacctctcc atttgtatga tacaccagga
2700
tccacatata acctccagat acttacaagg agattacgat ttcggttgga acgtgcacct
2760
ggtgaaactg cattgattga caggactggc agaatgttga agatggaacc tttggctaca
2820
gttgaaatct tggaacagta ccttttgaaa atggtagcaa aacagtggta tgattttgac
2880
cgatcttcat ttgtttttgt tcgaaaatta agagaaggac aaaattttat atttcggcac
2940
cagcatgatt ttgatgaaaa tggaatcatt tactggattg gaacaaatgc aaaaactgct
3000
tatgaatggg taaatccagc tgcctatgga cttgtagtag taacgtcatc agaaggaaga
3060
aatctacctt atggccgctt agaagacata ctaagtcgtg ataattcagc tttaaattgt
3120
catagcaatg atgataagaa tgcttggttt gccatagatc tgggtctctg ggtgatacca
3180
tcagcatata cacttcgtca tgctcgtggt tatggaaggc ctgcactgag aaattgggtt
3240
ttccagggtat ccaaagatgg acagaactgg acttctttgt ataccatgt tgatgactgc
3300
agtctcaatg aaccagggtc aactgcaact tggcctcttg atccaccaa ggatgagaaa
3360

caaggggtgga gacatgtgag aattaaacag atggggaaaa atgccagtgg acaaacacac
3420
tacctctcat tatctggatt cgaactttat ggcactgtaa atggagtatg tgaagatcag
3480
ctagggaaaag cagctaaaaga agcagaagct aatcttagac ggcagagacg tctagtacgt
3540
tcccaggttc tgaaatacat ggttccagga gctcgtgtta tcagaggcct ggattggaaa
3600
tggcgagatc aggatggcag cccacagggga gaaggcactg tcacaggaga actacacaat
3660
ggctggattg atgtcacctg ggatgctggt ggctcaaact cttaccgtat gggcgagaa
3720
ggaaaatttg acctcaagct tgcaccaggg tacgacctg atacagtggc atcacccaaa
3780
cctgtttcat ccactgtttc aggcacaacg caatcatgga gcagcttggg gaaaaacaac
3840
tgtccagaca agacatctgc tgctgcaggc tcctcaagta gaaaaggaaag cagcagttct
3900
gtgtgtagcg tggccagtag cagcgacatc agcttgggtt cgacaaaaac ggaacggaga
3960
tcagaaattg taatggaaca cagtatagtt tcaggagctg atgtccatga accaattggt
4020
gttctttcat ctgctgaaaa cgtccctcaa acagaagtag ggtcatcttc cagtgaagc
4080
accagcacct taacagcgga aacgggaagt gaaaatgctg aaagggaagt aggccctgat
4140
agttctgttc gtactcctgg ggagtctagt gcaatatcca tgggaattgt cagtgttagt
4200
tctcctgatg ttagttcagt atctgaatta actaataaag aagcagcttc acaacgacct
4260
cttagctctt cagcaagtaa cagactgtca gtgagttctt tgttggctgc tggggccct
4320
atgagctcta gtgcaagtgt acctaacctg tcctcaagag aaacatctag cttggagagt
4380
tttgtaagga gagtggcaaa catagcacgg actaatgcca cgaacaacat gaatctaagc
4440
cgaagcagca gtgataacaa cactaatact ttggggagga atgtgatgag cacagcaact
4500
tctcctctta tgggtgctca gagtttcctt aatttgacca cacctggtac tacatcaaca
4560
gtgactatgt caacatccag tgttactagc agcagcaatg tagctacagc aacaacagtt
4620
ttatcagttg gtcaatcttt aagtaacact ttaaccacca gcctcacatc aacttccagt
4680
gagagtgaca caggtcagga agcagaatat tccttatatg atttccttga tagctgccg
4740
gccagtactc tattggctga gctcgatgat gatgaggact tacctgagcc agatgaagaa
4800
gatgatgaga atgaagatga caatcaggag gaccaagaat acgaggaggt tatgattctg
4860
agacgcccac cctgcaacg tcgagctggc tcccgtctg atgtaacgca tcatgctgtt
4920
acctgcagc taccacaggt acctgctgga gcaggagcc gacctattgg ggagcaggaa
4980

gaagaagagt acgaaactaa aggaggacgc cggagaacat gggatgatga ttatgtgcta
5040
aagagacagt tttctgcatt ggttcttgct ttgtatccta gacctggtcg tactaatgtc
5100
cagcagacaa ctgatctaga aataccaccc ccagggaccc ctcattcaga gctcttgga
5160
gaagtccaat gtactccgtc acctcgatta gctctcactt tgaaagtaac aggtcttgga
5220
acgactcgtg aagtgaatt accactcacc aatttcagat caaccatctt ttactatgta
5280
caaaaattgc ttcaattgtc ctgtaatggc aatgtgaaat cagataaact taggcgtatt
5340
tgaggagccca catacacaat catgtacaga gaaatgaagg attctgataa agaaaaggaa
5400
aatggaaaaa tgggttgctg gtctatagag catgtggagc agtaccttg cactgatgaa
5460
ttaccaaaaga atgacttgat aacctacctg cagaagaatg cagacgctgc tttctgcgc
5520
cactggaaat taactggcac taataaaagt attaggaaaa acagaaattg ttctcagctc
5580
atagctgcat ataaggattt ttgtgagcat ggaacaaagt ctgggttaaa ccagggggcc
5640
atttctactc ttcaaagtag tgatattctt aatttaacaa aagaacaacc tcaggccaaa
5700
gcaggcaatg gacagaactc ttgtggagta gaagatgtcc ttcagcttct gcgtattctg
5760
tatatagttg caagtgaccc ttattcaaga atatcccagg aagatggtga tgaacagcct
5820
cagtttactt ttccaccaga tgaattcact agcaaaaaaa ttacaacaaa aatattacag
5880
cagattgagg aaccattggc actggcaagt ggggctctgc cagactggtg tgaacaatta
5940
accagcaaat gtccttttct aataccattt gaaactagac agctttattt cacatgtaca
6000
tcatttggcg cctcaagagc aatagtatgg ttacagaacc gacgtgaagc cactgtggag
6060
cgaacgagaa ccacaagcag tgtagggcga gatgaccctg gagagtctcg agttggctcg
6120
ctcaagcatg aaagagtaaa agttccacgt ggcgagtcac tgatggaatg ggctgagaat
6180
gtcatgcaaa tacatgcaga tcggaaatca gttcttgagg ttgaattttt aggagaagaa
6240
ggaactggct tgggaccac attagagttt tatgctctgg tggcagcaga attccagaga
6300
actgacttg gagcttggtt ttgtgatgat aattttccag atgatgaatc tcgtcacggt
6360
gatcttgagg gtggattgaa acctcctgga tattatgtgc agaggtcag tggactgttc
6420
acagcaccat ttccacagga tagtgatgag cttgaaagga tcacgaaact gtttcatttc
6480
cttgaattt tcttggccaa atgcattcaa gacaatagac ttgtggactt acctatttct
6540
aaacctttt ttaaacttat gtgtatgggt gacattaaaa gcaatatgag taaactgatt
6600

tatgagtcac gaggtgatag agacttacac tgtactgaaa gtcagtctga agcttctaca
 6660
 gaagaaggtc atgattcact ctcggttagga agctttgaag aggattcaaa atcagaattt
 6720
 attcttgatc cccctaaacc aaaaccccca gcttggctta atggaatttt gacttgggaa
 6780
 gactttgaat tagtaaacc acacagagcc agatttttaa aagaaattaa agaccttgc
 6840
 atcaagaggc gccaaatttt aagcaacaaa ggtctttctg aagatgagaa gaacacaaaa
 6900
 ttacaggaac tagtgctgaa gaatccatca ggttctgggc ctccacttag catagaggat
 6960
 ttaggtttaa atttccagtt ttgcccttcc tcaagaatat atggttttac agctgtggat
 7020
 ctcaagccaa gtggtgaaga tgagatgata acaatggata atgcagaaga atatgtggat
 7080
 ttgatgtttg acttttgtat gcatacgggt attcagaaac aaatggaagc ctttagagat
 7140
 gggtttaata aagtttttcc aatggagaaa ttaagttcct tcagccatga agaagtccaa
 7200
 atgattcttt gtggaaacca gtcaccatcc tgggcagcag aggatattat caattacact
 7260
 gaacctaaagc tgggttatac acgtgacagc cctggtttcc tgaggtttgt gagggtttta
 7320
 tgtggcatgt cttctgatga aaggaaagca ttcttgcaat ttaccactgg ttgttcaact
 7380
 ctacccccag gtggactggc taacctgcat cccaggctca cggttgtacg caaggttgat
 7440
 gctactgatg caagctatcc atcagtcaat acatgtgtgc attaccttaa gttgcctgaa
 7500
 tattcttccg aggagatcat gagagagcgc ctgctagctg ctacaatgga gaaaggcttt
 7560
 catctcaatt gagctttgaa gtgcaatggg agacatcaga gactttaaaa atactagtga
 7620
 agcctcttgt gtttgtgtgc agagaagtat atgatccacc atgctaata cacttgcctt
 7680
 tttttccacc attaaggctt taagaacatg tggaataagt ttttttagctg ctaatgacaa
 7740
 aacaaatcct gtaactaccc agccagcaag tatatagcac agaacactgt gttactttac
 7800
 aagggttat gtgactggaa taagggtggtc ccacttgact gttccaaaga gcagcttctc
 7860
 agatcttcag tgttcactgg taaatttcta acagtgtatt tgtgtaaagt ttgtcatttc
 7920
 atactccata cactacagtt gctgtcactg atccctgttt tgctggcttt taagctactt
 7980
 ggtcaaaaat cctgcttctt taaaacatag agaattaatg agcatctcaa gctttttctt
 8040
 ttctttttta atgatgcctg cactatcaag agtattctag tgttctctct ttgtttggca
 8100
 tataatcatg caccaaactt tttatttctt taagggtggga gtatatTTTT atttcctaaa
 8160
 tgccatacta tgaagatcaa agtcttaagt gtgtttgcag ctcaaaaata aagatgtatt
 8220

aaggggggaa aacctggtct aagtgaagg cacacttaca gcgagtttta ctttcggttg
 8280
 tattttcttt gtatattata aacatttatt taacttggtg ccgtttgaag taaaaaattt
 8340
 ccaaaatgta tgctcaacaa taatcattaa aatgtttgca gcgtaaaaaa aaaaaaaaaa
 8400
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa
 8458

<210> 4056

<211> 2434

<212> PRT

<213> Homo sapiens

<400> 4056

Met	Glu	Pro	Gln	Asp	Ser	Ser	Leu	Glu	Ile	Cys	Val	Glu	Ser	Leu	Ser	1	5	10	15
Ser	Leu	Leu	Lys	His	Glu	Asp	His	Gln	Val	Ser	Asp	Gly	Ala	Leu	Arg	20	25	30	
Cys	Phe	Ala	Ser	Leu	Ala	Asp	Arg	Phe	Thr	Arg	Arg	Gly	Val	Asp	Pro	35	40	45	
Ala	Pro	Leu	Ala	Lys	His	Gly	Leu	Thr	Glu	Glu	Leu	Leu	Ser	Arg	Met	50	55	60	
Ala	Ala	Ala	Gly	Gly	Thr	Val	Ser	Gly	Pro	Ser	Ser	Ala	Cys	Lys	Pro	65	70	75	80
Gly	Arg	Ser	Thr	Thr	Gly	Ala	Pro	Ser	Thr	Thr	Ala	Asp	Ser	Lys	Leu	85	90	95	
Ser	Asn	Gln	Val	Ser	Thr	Ile	Val	Ser	Leu	Leu	Ser	Thr	Leu	Cys	Arg	100	105	110	
Gly	Ser	Pro	Val	Val	Thr	His	Asp	Leu	Leu	Arg	Ser	Glu	Leu	Pro	Asp	115	120	125	
Ser	Ile	Glu	Ser	Ala	Leu	Gln	Gly	Asp	Glu	Arg	Cys	Val	Leu	Asp	Thr	130	135	140	
Met	Arg	Leu	Val	Asp	Leu	Leu	Val	Leu	Leu	Phe	Glu	Gly	Arg	Lys		145	150	155	160
Ala	Leu	Pro	Lys	Ser	Ser	Ala	Gly	Ser	Thr	Gly	Arg	Ile	Pro	Gly	Leu	165	170	175	
Arg	Arg	Leu	Asp	Ser	Ser	Gly	Glu	Arg	Ser	His	Arg	Gln	Leu	Ile	Asp	180	185	190	
Cys	Ile	Arg	Ser	Lys	Asp	Thr	Asp	Ala	Leu	Ile	Asp	Ala	Ile	Asp	Thr	195	200	205	
Gly	Ala	Phe	Glu	Val	Asn	Phe	Met	Asp	Asp	Val	Gly	Gln	Thr	Leu	Leu	210	215	220	
Asn	Trp	Ala	Ser	Ala	Phe	Gly	Thr	Gln	Glu	Met	Val	Glu	Phe	Leu	Cys	225	230	235	240
Glu	Arg	Gly	Ala	Asp	Val	Asn	Arg	Gly	Gln	Arg	Ser	Ser	Ser	Leu	His	245	250	255	
Tyr	Ala	Ala	Cys	Phe	Gly	Arg	Pro	Gln	Val	Ala	Lys	Thr	Leu	Leu	Arg	260	265	270	
His	Gly	Ala	Asn	Pro	Asp	Leu	Arg	Asp	Glu	Asp	Gly	Lys	Thr	Pro	Leu	275	280	285	
Asp	Lys	Ala	Arg	Glu	Arg	Gly	His	Ser	Glu	Val	Val	Ala	Ile	Leu	Gln	290	295	300	
Ser	Pro	Gly	Asp	Trp	Met	Cys	Pro	Val	Asn	Lys	Gly	Asp	Asp	Lys	Lys				

```

305          310          315          320
Lys Lys Asp Thr Asn Lys Asp Glu Glu Glu Cys Asn Glu Pro Lys Gly
          325          330          335
Asp Pro Glu Met Ala Pro Ile Tyr Leu Lys Arg Leu Leu Pro Val Phe
          340          345          350
Ala Gln Thr Phe Gln Gln Thr Met Leu Pro Ser Ile Arg Lys Ala Ser
          355          360          365
Leu Ala Leu Ile Arg Lys Met Ile His Phe Cys Ser Glu Ala Leu Leu
          370          375          380
Lys Glu Val Cys Asp Ser Asp Val Gly His Asn Leu Pro Thr Ile Leu
385          390          395          400
Val Glu Ile Thr Ala Thr Val Leu Asp Gln Glu Asp Asp Asp Asp Gly
          405          410          415
His Leu Leu Ala Leu Gln Ile Ile Arg Asp Leu Val Asp Lys Gly Gly
          420          425          430
Asp Ile Phe Leu Asp Gln Leu Ala Arg Leu Gly Val Ile Ser Lys Val
          435          440          445
Ser Thr Leu Ala Gly Pro Ser Ser Asp Asp Glu Asn Glu Glu Glu Ser
          450          455          460
Lys Pro Glu Lys Glu Asp Glu Pro Gln Glu Asp Ala Lys Glu Leu Gln
465          470          475          480
Gln Gly Lys Pro Tyr His Trp Arg Asp Trp Ser Ile Ile Arg Gly Arg
          485          490          495
Asp Cys Leu Tyr Ile Trp Ser Asp Ala Ala Leu Glu Leu Ser Asn
          500          505          510
Gly Ser Asn Gly Trp Phe Arg Phe Ile Leu Asp Gly Lys Leu Ala Thr
          515          520          525
Met Tyr Ser Ser Gly Ser Pro Glu Gly Gly Ser Asp Ser Ser Glu Ser
          530          535          540
Arg Ser Glu Phe Leu Glu Lys Leu Gln Arg Ala Arg Gly Gln Val Lys
545          550          555          560
Pro Ser Thr Ser Ser Gln Pro Ile Leu Ser Ala Pro Gly Pro Thr Lys
          565          570          575
Leu Thr Val Gly Asn Trp Ser Leu Thr Cys Leu Lys Glu Gly Glu Ile
          580          585          590
Ala Ile His Asn Ser Asp Gly Gln Gln Ala Thr Ile Leu Lys Glu Asp
          595          600          605
Leu Pro Gly Phe Val Phe Glu Ser Asn Arg Gly Thr Lys His Ser Phe
          610          615          620
Thr Ala Glu Thr Ser Leu Gly Ser Glu Phe Val Thr Gly Trp Thr Gly
625          630          635          640
Lys Arg Gly Arg Lys Leu Lys Ser Lys Leu Glu Lys Thr Lys Xaa Lys
          645          650          655
Val Arg Thr Met Ala Arg Asp Leu Tyr Asp Asp His Phe Lys Ala Val
          660          665          670
Glu Ser Met Pro Arg Gly Val Val Val Thr Leu Arg Asn Ile Ala Thr
          675          680          685
Gln Leu Glu Ser Ser Trp Glu Leu His Thr Asn Arg Gln Cys Ile Glu
          690          695          700
Ser Glu Asn Thr Trp Arg Asp Leu Met Lys Thr Ala Leu Glu Asn Leu
705          710          715          720
Ile Val Leu Leu Lys Asp Glu Asn Thr Ile Ser Pro Tyr Glu Met Cys
          725          730          735
Ser Ser Gly Leu Val Gln Ala Leu Leu Thr Val Leu Asn Asn Ser Met

```

740					745					750					
Asp	Leu	Asp	Met	Lys	Gln	Asp	Cys	Ser	Gln	Leu	Val	Glu	Arg	Ile	Asn
755					760					765					
Val	Phe	Lys	Thr	Ala	Phe	Ser	Glu	Asn	Glu	Asp	Asp	Glu	Ser	Arg	Pro
770					775					780					
Ala	Val	Ala	Leu	Ile	Arg	Lys	Leu	Ile	Ala	Val	Leu	Glu	Ser	Ile	Glu
785	790					795					800				
Arg	Leu	Pro	Leu	His	Leu	Tyr	Asp	Thr	Pro	Gly	Ser	Thr	Tyr	Asn	Leu
805					810					815					
Gln	Ile	Leu	Thr	Arg	Arg	Leu	Arg	Phe	Arg	Leu	Glu	Arg	Ala	Pro	Gly
820					825					830					
Glu	Thr	Ala	Leu	Ile	Asp	Arg	Thr	Gly	Arg	Met	Leu	Lys	Met	Glu	Pro
835					840					845					
Leu	Ala	Thr	Val	Glu	Ser	Leu	Glu	Gln	Tyr	Leu	Leu	Lys	Met	Val	Ala
850					855					860					
Lys	Gln	Trp	Tyr	Asp	Phe	Asp	Arg	Ser	Ser	Phe	Val	Phe	Val	Arg	Lys
865	870					875					880				
Leu	Arg	Glu	Gly	Gln	Asn	Phe	Ile	Phe	Arg	His	Gln	His	Asp	Phe	Asp
885					890					895					
Glu	Asn	Gly	Ile	Ile	Tyr	Trp	Ile	Gly	Thr	Asn	Ala	Lys	Thr	Ala	Tyr
900					905					910					
Glu	Trp	Val	Asn	Pro	Ala	Ala	Tyr	Gly	Leu	Val	Val	Val	Thr	Ser	Ser
915					920					925					
Glu	Gly	Arg	Asn	Leu	Pro	Tyr	Gly	Arg	Leu	Glu	Asp	Ile	Leu	Ser	Arg
930					935					940					
Asp	Asn	Ser	Ala	Leu	Asn	Cys	His	Ser	Asn	Asp	Asp	Lys	Asn	Ala	Trp
945	950					955					960				
Phe	Ala	Ile	Asp	Leu	Gly	Leu	Trp	Val	Ile	Pro	Ser	Ala	Tyr	Thr	Leu
965					970					975					
Arg	His	Ala	Arg	Gly	Tyr	Gly	Arg	Ser	Ala	Leu	Arg	Asn	Trp	Val	Phe
980					985					990					
Gln	Val	Ser	Lys	Asp	Gly	Gln	Asn	Trp	Thr	Ser	Leu	Tyr	Thr	His	Val
995					1000					1005					
Asp	Asp	Cys	Ser	Leu	Asn	Glu	Pro	Gly	Ser	Thr	Ala	Thr	Trp	Pro	Leu
1010					1015					1020					
Asp	Pro	Pro	Lys	Asp	Glu	Lys	Gln	Gly	Trp	Arg	His	Val	Arg	Ile	Lys
1025	1030					1035					1040				
Gln	Met	Gly	Lys	Asn	Ala	Ser	Gly	Gln	Thr	His	Tyr	Leu	Ser	Leu	Ser
1045					1050					1055					
Gly	Phe	Glu	Leu	Tyr	Gly	Thr	Val	Asn	Gly	Val	Cys	Glu	Asp	Gln	Leu
1060					1065					1070					
Gly	Lys	Ala	Ala	Lys	Glu	Ala	Glu	Ala	Asn	Leu	Arg	Arg	Gln	Arg	Arg
1075					1080					1085					
Leu	Val	Arg	Ser	Gln	Val	Leu	Lys	Tyr	Met	Val	Pro	Gly	Ala	Arg	Val
1090					1095					1100					
Ile	Arg	Gly	Leu	Asp	Trp	Lys	Trp	Arg	Asp	Gln	Asp	Gly	Ser	Pro	Gln
1105	1110					1115					1120				
Gly	Glu	Gly	Thr	Val	Thr	Gly	Glu	Leu	His	Asn	Gly	Trp	Ile	Asp	Val
1125					1130					1135					
Thr	Trp	Asp	Ala	Gly	Gly	Ser	Asn	Ser	Tyr	Arg	Met	Gly	Ala	Glu	Gly
1140					1145					1150					
Lys	Phe	Asp	Leu	Lys	Leu	Ala	Pro	Gly	Tyr	Asp	Pro	Asp	Thr	Val	Ala
1155					1160					1165					
Ser	Pro	Lys	Pro	Val	Ser	Ser	Thr	Val	Ser	Gly	Thr	Thr	Gln	Ser	Trp

1170	1175	1180
Ser Ser Leu Val Lys Asn Asn Cys Pro Asp Lys Thr Ser Ala Ala Ala		
1185	1190	1195
Gly Ser Ser Ser Arg Lys Gly Ser Ser Ser Val Cys Ser Val Ala		1200
1205	1210	1215
Ser Ser Ser Asp Ile Ser Leu Gly Ser Thr Lys Thr Glu Arg Arg Ser		
1220	1225	1230
Glu Ile Val Met Glu His Ser Ile Val Ser Gly Ala Asp Val His Glu		
1235	1240	1245
Pro Ile Val Val Leu Ser Ser Ala Glu Asn Val Pro Gln Thr Glu Val		
1250	1255	1260
Gly Ser Ser Ser Ser Ala Ser Thr Ser Thr Leu Thr Ala Glu Thr Gly		
1265	1270	1275
Ser Glu Asn Ala Glu Arg Lys Leu Gly Pro Asp Ser Ser Val Arg Thr		1280
1285	1290	1295
Pro Gly Glu Ser Ser Ala Ile Ser Met Gly Ile Val Ser Val Ser Ser		
1300	1305	1310
Pro Asp Val Ser Ser Val Ser Glu Leu Thr Asn Lys Glu Ala Ala Ser		
1315	1320	1325
Gln Arg Pro Leu Ser Ser Ser Ala Ser Asn Arg Leu Ser Val Ser Ser		
1330	1335	1340
Leu Leu Ala Ala Gly Ala Pro Met Ser Ser Ser Ala Ser Val Pro Asn		
1345	1350	1355
Leu Ser Ser Arg Glu Thr Ser Ser Leu Glu Ser Phe Val Arg Arg Val		
1365	1370	1375
Ala Asn Ile Ala Arg Thr Asn Ala Thr Asn Asn Met Asn Leu Ser Arg		
1380	1385	1390
Ser Ser Ser Asp Asn Asn Thr Asn Thr Leu Gly Arg Asn Val Met Ser		
1395	1400	1405
Thr Ala Thr Ser Pro Leu Met Gly Ala Gln Ser Phe Pro Asn Leu Thr		
1410	1415	1420
Thr Pro Gly Thr Thr Ser Thr Val Thr Met Ser Thr Ser Ser Val Thr		
1425	1430	1435
Ser Ser Ser Asn Val Ala Thr Ala Thr Thr Val Leu Ser Val Gly Gln		1440
1445	1450	1455
Ser Leu Ser Asn Thr Leu Thr Thr Ser Leu Thr Ser Thr Ser Ser Glu		
1460	1465	1470
Ser Asp Thr Gly Gln Glu Ala Glu Tyr Ser Leu Tyr Asp Phe Leu Asp		
1475	1480	1485
Ser Cys Arg Ala Ser Thr Leu Leu Ala Glu Leu Asp Asp Asp Glu Asp		
1490	1495	1500
Leu Pro Glu Pro Asp Glu Glu Asp Asp Glu Asn Glu Asp Asp Asn Gln		
1505	1510	1515
Glu Asp Gln Glu Tyr Glu Glu Val Met Ile Leu Arg Arg Pro Ser Leu		1520
1525	1530	1535
Gln Arg Arg Ala Gly Ser Arg Ser Asp Val Thr His His Ala Val Thr		
1540	1545	1550
Ser Gln Leu Pro Gln Val Pro Ala Gly Ala Gly Ser Arg Pro Ile Gly		
1555	1560	1565
Glu Gln Glu Glu Glu Glu Tyr Glu Thr Lys Gly Gly Arg Arg Arg Thr		
1570	1575	1580
Trp Asp Asp Asp Tyr Val Leu Lys Arg Gln Phe Ser Ala Leu Val Pro		
1585	1590	1595
Ala Phe Asp Pro Arg Pro Gly Arg Thr Asn Val Gln Gln Thr Thr Asp		1600

				1605				1610				1615				
Leu	Glu	Ile	Pro	Pro	Pro	Gly	Thr	Pro	His	Ser	Glu	Leu	Leu	Glu	Glu	
			1620					1625					1630			
Val	Glu	Cys	Thr	Pro	Ser	Pro	Arg	Leu	Ala	Leu	Thr	Leu	Lys	Val	Thr	
		1635					1640					1645				
Gly	Leu	Gly	Thr	Thr	Arg	Glu	Val	Glu	Leu	Pro	Leu	Thr	Asn	Phe	Arg	
	1650					1655					1660					
Ser	Thr	Ile	Phe	Tyr	Tyr	Val	Gln	Lys	Leu	Leu	Gln	Leu	Ser	Cys	Asn	
1665				1670					1675					1680		
Gly	Asn	Val	Lys	Ser	Asp	Lys	Leu	Arg	Arg	Ile	Trp	Glu	Pro	Thr	Tyr	
			1685					1690					1695			
Thr	Ile	Met	Tyr	Arg	Glu	Met	Lys	Asp	Ser	Asp	Lys	Glu	Lys	Glu	Asn	
		1700					1705					1710				
Gly	Lys	Met	Gly	Cys	Trp	Ser	Ile	Glu	His	Val	Glu	Gln	Tyr	Leu	Gly	
	1715					1720					1725					
Thr	Asp	Glu	Leu	Pro	Lys	Asn	Asp	Leu	Ile	Thr	Tyr	Leu	Gln	Lys	Asn	
	1730					1735					1740					
Ala	Asp	Ala	Ala	Phe	Leu	Arg	His	Trp	Lys	Leu	Thr	Gly	Thr	Asn	Lys	
1745				1750					1755					1760		
Ser	Ile	Arg	Lys	Asn	Arg	Asn	Cys	Ser	Gln	Leu	Ile	Ala	Ala	Tyr	Lys	
			1765					1770					1775			
Asp	Phe	Cys	Glu	His	Gly	Thr	Lys	Ser	Gly	Leu	Asn	Gln	Gly	Ala	Ile	
	1780					1785					1790					
Ser	Thr	Leu	Gln	Ser	Ser	Asp	Ile	Leu	Asn	Leu	Thr	Lys	Glu	Gln	Pro	
	1795					1800					1805					
Gln	Ala	Lys	Ala	Gly	Asn	Gly	Gln	Asn	Ser	Cys	Gly	Val	Glu	Asp	Val	
	1810					1815					1820					
Leu	Gln	Leu	Leu	Arg	Ile	Leu	Tyr	Ile	Val	Ala	Ser	Asp	Pro	Tyr	Ser	
1825				1830					1835					1840		
Arg	Ile	Ser	Gln	Glu	Asp	Gly	Asp	Glu	Gln	Pro	Gln	Phe	Thr	Phe	Pro	
			1845					1850					1855			
Pro	Asp	Glu	Phe	Thr	Ser	Lys	Lys	Ile	Thr	Thr	Lys	Ile	Leu	Gln	Gln	
	1860					1865					1870					
Ile	Glu	Glu	Pro	Leu	Ala	Leu	Ala	Ser	Gly	Ala	Leu	Pro	Asp	Trp	Cys	
	1875					1880					1885					
Glu	Gln	Leu	Thr	Ser	Lys	Cys	Pro	Phe	Leu	Ile	Pro	Phe	Glu	Thr	Arg	
	1890					1895					1900					
Gln	Leu	Tyr	Phe	Thr	Cys	Thr	Ser	Phe	Gly	Ala	Ser	Arg	Ala	Ile	Val	
1905				1910					1915					1920		
Trp	Leu	Gln	Asn	Arg	Arg	Glu	Ala	Thr	Val	Glu	Arg	Thr	Arg	Thr	Thr	
			1925					1930					1935			
Ser	Ser	Val	Arg	Arg	Asp	Asp	Pro	Gly	Glu	Phe	Arg	Val	Gly	Arg	Leu	
	1940					1945					1950					
Lys	His	Glu	Arg	Val	Lys	Val	Pro	Arg	Gly	Glu	Ser	Leu	Met	Glu	Trp	
	1955					1960					1965					
Ala	Glu	Asn	Val	Met	Gln	Ile	His	Ala	Asp	Arg	Lys	Ser	Val	Leu	Glu	
	1970					1975					1980					
Val	Glu	Phe	Leu	Gly	Glu	Glu	Gly	Thr	Gly	Leu	Gly	Pro	Thr	Leu	Glu	
1985				199												

2035	2040	2045
Gly Leu Phe Thr Ala Pro Phe Pro Gln Asp Ser Asp Glu Leu Glu Arg		
2050	2055	2060
Ile Thr Lys Leu Phe His Phe Leu Gly Ile Phe Leu Ala Lys Cys Ile		
2065	2070	2075
Gln Asp Asn Arg Leu Val Asp Leu Pro Ile Ser Lys Pro Phe Phe Lys		2080
	2085	2090
Leu Met Cys Met Gly Asp Ile Lys Ser Asn Met Ser Lys Leu Ile Tyr		2095
	2100	2105
Glu Ser Arg Gly Asp Arg Asp Leu His Cys Thr Glu Ser Gln Ser Glu		2110
	2115	2120
Ala Ser Thr Glu Glu Gly His Asp Ser Leu Ser Val Gly Ser Phe Glu		2125
	2130	2135
Glu Asp Ser Lys Ser Glu Phe Ile Leu Asp Pro Pro Lys Pro Lys Pro		2140
2145	2150	2155
Pro Ala Trp Leu Asn Gly Ile Leu Thr Trp Glu Asp Phe Glu Leu Val		2160
	2165	2170
Asn Pro His Arg Ala Arg Phe Leu Lys Glu Ile Lys Asp Leu Ala Ile		2175
	2180	2185
Lys Arg Arg Gln Ile Leu Ser Asn Lys Gly Leu Ser Glu Asp Glu Lys		2190
	2195	2200
Asn Thr Lys Leu Gln Glu Leu Val Leu Lys Asn Pro Ser Gly Ser Gly		2205
	2210	2215
Pro Pro Leu Ser Ile Glu Asp Leu Gly Leu Asn Phe Gln Phe Cys Pro		2220
2225	2230	2235
Ser Ser Arg Ile Tyr Gly Phe Thr Ala Val Asp Leu Lys Pro Ser Gly		2240
	2245	2250
Glu Asp Glu Met Ile Thr Met Asp Asn Ala Glu Glu Tyr Val Asp Leu		2255
	2260	2265
Met Phe Asp Phe Cys Met His Thr Gly Ile Gln Lys Gln Met Glu Ala		2270
	2275	2280
Phe Arg Asp Gly Phe Asn Lys Val Phe Pro Met Glu Lys Leu Ser Ser		2285
	2290	2295
Phe Ser His Glu Glu Val Gln Met Ile Leu Cys Gly Asn Gln Ser Pro		2300
2305	2310	2315
Ser Trp Ala Ala Glu Asp Ile Ile Asn Tyr Thr Glu Pro Lys Leu Gly		2320
	2325	2330
Tyr Thr Arg Asp Ser Pro Gly Phe Leu Arg Phe Val Arg Val Leu Cys		2335
	2340	2345
Gly Met Ser Ser Asp Glu Arg Lys Ala Phe Leu Gln Phe Thr Thr Gly		2350
	2355	2360
Cys Ser Thr Leu Pro Pro Gly Gly Leu Ala Asn Leu His Pro Arg Leu		2365
	2370	2375
Thr Val Val Arg Lys Val Asp Ala Thr Asp Ala Ser Tyr Pro Ser Val		2380
2385	2390	2395
Asn Thr Cys Val His Tyr Leu Lys Leu Pro Glu Tyr Ser Ser Glu Glu		2400
	2405	2410
Ile Met Arg Glu Arg Leu Leu Ala Ala Thr Met Glu Lys Gly Phe His		2415
	2420	2425
Leu Asn		2430

<210> 4057

<211> 533

<212> DNA

<213> Homo sapiens

<400> 4057

gcgcgcctcc acctgctaga ccagggtgtt ttccaggagc tgctgaagac agcccgcagc
60
agcaaggcct tcccagagga tgtgggtcagg gtcattcttct ccaacatctc ctccatctat
120
cagttccatt ctcagttctt cctcccagag ctgcagcggc gcctggacga ctggacagct
180
aacccccgca tcggtgacgt gatccagaag ctggccccct tctgaagat gtacagtga
240
tatgtcaaga actttgagcg agcggctgag ctgctggcca cctggaccga caagtctcca
300
ctcttccagg aggtttctac tcgcatccag gtgaggctgg gggagggctg gagtcagcat
360
tgccactccc agcatgcagt ggctcagggt gccttgagtg attccgggca tctcccaggc
420
tcagctgctt ccataggccc ctgcctactc gtccggccct caggagcagc ctgacccacc
480
tcctttctct caccctctcc gtgttctcc cccatccctc cccaagagca gcg
533

<210> 4058

<211> 157

<212> PRT

<213> Homo sapiens

<400> 4058

Ala	Arg	Leu	His	Leu	Leu	Asp	Gln	Val	Phe	Phe	Gln	Glu	Leu	Leu	Lys
1			5						10					15	
Thr	Ala	Arg	Ser	Lys	Ala	Phe	Pro	Glu	Asp	Val	Val	Arg	Val	Ile	
			20				25					30			
Phe	Ser	Asn	Ile	Ser	Ser	Ile	Tyr	Gln	Phe	His	Ser	Gln	Phe	Phe	Leu
		35				40					45				
Pro	Glu	Leu	Gln	Arg	Arg	Leu	Asp	Asp	Trp	Thr	Ala	Asn	Pro	Arg	Ile
	50					55				60					
Gly	Asp	Val	Ile	Gln	Lys	Leu	Ala	Pro	Phe	Leu	Lys	Met	Tyr	Ser	Glu
65				70					75					80	
Tyr	Val	Lys	Asn	Phe	Glu	Arg	Ala	Ala	Glu	Leu	Leu	Ala	Thr	Trp	Thr
			85						90				95		
Asp	Lys	Ser	Pro	Leu	Phe	Gln	Glu	Val	Leu	Thr	Arg	Ile	Gln	Val	Arg
			100					105					110		
Leu	Gly	Glu	Gly	Trp	Ser	Gln	His	Cys	His	Ser	Gln	His	Ala	Val	Ala
		115				120						125			
Gln	Val	Ala	Leu	Ser	Asp	Ser	Gly	His	Leu	Pro	Gly	Ser	Ala	Ala	Ser
	130					135					140				
Ile	Gly	Pro	Cys	Leu	Leu	Val	Arg	Pro	Ser	Gly	Ala	Ala			
145					150					155					

<210> 4059

<211> 3994

<212> DNA

<213> Homo sapiens

<400> 4059

ngtccaggtc ctgcatagtt ttgggccttt aaagtcggcc atcccagatt gagggggcct
60
gacccctggg cgaggccgcc gcctctcagt tttggggcgg tggcgacccc agtccgggag
120
tggccccggt aggtccccgc aggggggag gagctccgag gccattggct ggcgcgcggg
180
ctgccaaggg gcggggagcg ccgccgaagg ggactgtttg ctccctacggg ctgtagatgg
240
agctgtccgg ccccgagagag ggggaaggcg cctggaaaac gttcttcttc tccctggccg
300
acccgagcgg ggaacagcac tcccaggatg cagtgtgtgt caacacggcc gcagcctcag
360
cagctgggca tccagggcct ggggctggac agcgggagct ggagctgggc ccaggctctg
420
cccccgagg aggtctgcca ccaggagccg gcgctgcgcg gggaaatggc cgagggaatg
480
ccgcccattgc aggtcaaga atgggacatg gacgcccggc ggccaatgcc ttttcagttc
540
ccaccctttc cagatagggc acctgtcttc cccgaccgca tgatgcgaga gcccagttg
600
cccacagcag agatctcact ctggactgtg gtggctgcca ttcaggccat ggagaggaag
660
attgaatcgc aggtgtctca cctgctttcc ctagaaggtc aaaccgggat ggccgagaag
720
aagctggctg attgcgagaa gacagctgtg gagttcggga accagctgga gggcaagtgg
780
gccgtgctgg ggacctgct gcaggagtac gggctgctgc agaggcggct ggagaacgtg
840
gagaacttgc tgcgcaacag gaacttctgg gtcctgcggc tgcccccggg cagcaagggg
900
gaggccccca aggttccagt gacttttgtc gacattgctg tgtacttctc cgaagacgag
960
tggaagaact tggacgaatg gcagaaggag ctttataaca acctgtgtaa ggagaactac
1020
aaaaccctca tgtccctgga cgcggagggc tcagtcccca agccagatgc tccagtccag
1080
gctgagccca gggaagaacc ttgtgtgtgg gagcagcgcc accccgaaga gagagaaatc
1140
ccaatggatc ccgaagcagg agcagagccc ctggtgcctg cccaggatgc gtccctccag
1200
gtgaagcgtg aggacaccct gtgtgtccgg ggtcagcggg gcctggagga aagagccatc
1260
cctacggaat ccattaccgt agactcccca atttctgccc aggacctctt gtcccggatt
1320
aaacaggagg agcatcagtg cgtgtgggat cagcaggatt tggcagacag agatattccc
1380
acggatccca attcagagtc tctcatctca gcacatgaca ttttgtcatg gatcaagcag
1440
gaggagcagc catacccatg gggaccacgc gactcaatgg acggagagct tggattagac
1500
tctggcccta gtgacagcct gctgatggtg aagaaccac ccccgggccc gccacagccc
1560

cagccccagc cccagccacc gcagccgcag ctgcagtcgc agccccagcc ccagagcctg
1620
ccccccatcg cgggtggccga gaacccgggc ggccccccga gccgagggct gctggacgac
1680
ggtttccagg tgctgcccgg ggagcgtggc tccggcgagg cgccgccggg tggggaccgc
1740
agcaccgggg gcggcggggg cgatgggggc ggtgggggcg gcggcgcgga ggcggggacg
1800
ggggcaggcg gcggctgtgg cagctgctgc cctggcgggc tgcggcgagg cctcctcctg
1860
cacggcgccc gcagcaagcc ctactcgtgc cccgagtgcg gcaagagctt cggcgtgcgc
1920
aagagcctca tcattccacca ccgcagccac accaaggagc ggccctacga gtgcgctgag
1980
tgcgagaaga gcttcaactg ccactcgggc ctcatccgcc accagatgac gcaccgcggc
2040
gagcgggcct acaagtgtc ggagtgcgag aagacctaca gccgtaagga gcacctgcag
2100
aaccaccagc ggctgcacac gggcgagcgg cctttccaat gtgcactgtg cggcaagagc
2160
ttcatccgca agcagaacct gctcaagcac cagcgcatcc acacgggcga gcgcccctac
2220
acgtgcggcg agtgcggcaa gagcttccgc tacaaggagt cgctcaagga ccacctgcgc
2280
gtgcacagcg gcggccccgg ccccgggcgc ccacggcagc tcccgcgcgc tcctgagcga
2340
gactagggct gggctggggg agggcagggc cggacggagt ggatcggggg cggcctgagc
2400
accaaccacc ttgccgggtg tcctcagcca ccgtctggaa atcggcaaca ggcattgcac
2460
tccggttggg ggtccccag ggtggggcag ggatccccc gatctgtctg gtctgaatgg
2520
acgcccagct catctagggt ggaccagct gctggggaag agccaggggg accgcgagga
2580
gccgagcgtc ctcgggcacc gccctcacac ctctcgagt gccctgggac cactgggcca
2640
cagatggtca tcaggggaag ccaccaggga gtcccgaagc ccttctgaga tcaggaaatc
2700
aggtccaag gtaggagac gccctgaaaa aaagcgaagg ccgagggatg tgctaagggt
2760
aacacettca tgatgacaac actgcctcgc gtttcaatag cgctttatac ttttttaagt
2820
gtttctatc cgttatccat ttcacccttg gcctatccct ctcatagagg tggggtagga
2880
ttttcctggt gaccgagtaa agtgagaggc aggtgagacg gttcacccaa tcacacggga
2940
aggggcgcgc gctgccaac cgcgctctcc gcctacctcc gctgctcggg aagctgctgg
3000
cctggccctc ctggtctctc ttcccttccct ggtctctctt cctttccttg ctctcaccca
3060
cggataaaac cagaagcgac aggaggccag ctctgggggt tcctgggagc cgggaacaga
3120
ttggctacgg aacgccccag gttgtacatt cagagggctc tttctccatg ggagctcctg
3180

gtgccgcctc ggccccagcc tgtccccagc cctcaatct ggtgcagcag catcttgtca
 3240
 ctgcacaaca gtggcctggt cccccacagg cagttagggc cccagggtcag acctcaccat
 3300
 gatgatttgt tccagttctc ccagggcaga ggggagagg agaggctttt gctgtgagag
 3360
 tagccgtcac gtgtctcttc ccagcagcgc cgggcaagtg ggtgctagag tctgagcctc
 3420
 aggctctcct gccctgggccc tcccaattgg tgctatctgt tactgcccgt gctcacggac
 3480
 atggatacag accctgctgt gctccacacc ctgcaggcgc ctcggaagc gcccaaagga
 3540
 ttccccttca cgttggtgca cctgctccat agctccgggc gctgcgtccc gagggggccac
 3600
 agtctccatt tcagcgtctt gcatggcctg gcaccgggtg ggggtggtatg ccccaggacc
 3660
 cttgtttgtg taaaaaatga ctttccctgc ccttgccgtg ggtccggcgt tcctcccagc
 3720
 cgggatcaca gtgggcagcc ggcacccggc accactttgg cgagcgtcct gcttcgccc
 3780
 tcgcccctcat ctacgtgtct ccgctttcct cagacccctt tttgccgtgc aaaggggaatt
 3840
 cttgacatta aataaaagg atccagattg cagactgcat gttcacagag ctgggggttc
 3900
 tccagcttgc ctacagtaaa gcctcaatga actggaaaaa aaaaaaaaaa aaaaaaaaaa
 3960
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaa
 3994

<210> 4060

<211> 714

<212> PRT

<213> Homo sapiens

<400> 4060

Arg	Arg	Arg	Gly	Leu	Phe	Ala	Pro	Thr	Gly	Cys	Arg	Trp	Ser	Cys	Pro
1				5					10					15	
Ala	Pro	Glu	Arg	Gly	Lys	Ala	Pro	Gly	Lys	Arg	Ser	Ser	Ser	Pro	Trp
		20						25					30		
Pro	Thr	Arg	Ala	Gly	Asn	Ser	Thr	Pro	Arg	Met	Gln	Phe	Val	Ser	Thr
		35					40					45			
Arg	Pro	Gln	Pro	Gln	Gln	Leu	Gly	Ile	Gln	Gly	Leu	Gly	Leu	Asp	Ser
	50					55				60					
Gly	Ser	Trp	Ser	Trp	Ala	Gln	Ala	Leu	Pro	Pro	Glu	Glu	Val	Cys	His
65					70					75				80	
Gln	Glu	Pro	Ala	Leu	Arg	Gly	Glu	Met	Ala	Glu	Gly	Met	Pro	Pro	Met
				85					90					95	
Gln	Ala	Gln	Glu	Trp	Asp	Met	Asp	Ala	Arg	Arg	Pro	Met	Pro	Phe	Gln
		100						105					110		
Phe	Pro	Pro	Phe	Pro	Asp	Arg	Ala	Pro	Val	Phe	Pro	Asp	Arg	Met	Met
		115					120					125			
Arg	Glu	Pro	Gln	Leu	Pro	Thr	Ala	Glu	Ile	Ser	Leu	Trp	Thr	Val	Val
	130						135				140				
Ala	Ala	Ile	Gln	Ala	Met	Glu	Arg	Lys	Ile	Glu	Ser	Gln	Ala	Ala	His

145 150 155 160
 Leu Leu Ser Leu Glu Gly Gln Thr Gly Met Ala Glu Lys Lys Leu Ala
 165 170 175
 Asp Cys Glu Lys Thr Ala Val Glu Phe Gly Asn Gln Leu Glu Gly Lys
 180 185 190
 Trp Ala Val Leu Gly Thr Leu Leu Gln Glu Tyr Gly Leu Leu Gln Arg
 195 200 205
 Arg Leu Glu Asn Val Glu Asn Leu Leu Arg Asn Arg Asn Phe Trp Val
 210 215 220
 Leu Arg Leu Pro Pro Gly Ser Lys Gly Glu Ala Pro Lys Val Pro Val
 225 230 235 240
 Thr Phe Val Asp Ile Ala Val Tyr Phe Ser Glu Asp Glu Trp Lys Asn
 245 250 255
 Leu Asp Glu Trp Gln Lys Glu Leu Tyr Asn Asn Leu Val Lys Glu Asn
 260 265 270
 Tyr Lys Thr Leu Met Ser Leu Asp Ala Glu Gly Ser Val Pro Lys Pro
 275 280 285
 Asp Ala Pro Val Gln Ala Glu Pro Arg Glu Glu Pro Cys Val Trp Glu
 290 295 300
 Gln Arg His Pro Glu Glu Arg Glu Ile Pro Met Asp Pro Glu Ala Gly
 305 310 315 320
 Ala Glu Pro Leu Val Pro Ala Gln Asp Ala Ser Ser Gln Val Lys Arg
 325 330 335
 Glu Asp Thr Leu Cys Val Arg Gly Gln Arg Gly Leu Glu Glu Arg Ala
 340 345 350
 Ile Pro Thr Glu Ser Ile Thr Val Asp Ser Pro Ile Ser Ala Gln Asp
 355 360 365
 Leu Leu Ser Arg Ile Lys Gln Glu Glu His Gln Cys Val Trp Asp Gln
 370 375 380
 Gln Asp Leu Ala Asp Arg Asp Ile Pro Thr Asp Pro Asn Ser Glu Ser
 385 390 395 400
 Leu Ile Ser Ala His Asp Ile Leu Ser Trp Ile Lys Gln Glu Glu Gln
 405 410 415
 Pro Tyr Pro Trp Gly Pro Arg Asp Ser Met Asp Gly Glu Leu Gly Leu
 420 425 430
 Asp Ser Gly Pro Ser Asp Ser Leu Leu Met Val Lys Asn Pro Pro Pro
 435 440 445
 Ala Pro Pro Gln Pro Gln Pro Gln Pro Gln Pro Pro Gln Pro Gln Leu
 450 455 460
 Gln Ser Gln Pro Gln Pro Gln Ser Leu Pro Pro Ile Ala Val Ala Glu
 465 470 475 480
 Asn Pro Gly Gly Pro Pro Ser Arg Gly Leu Leu Asp Asp Gly Phe Gln
 485 490 495
 Val Leu Pro Gly Glu Arg Gly Ser Gly Glu Ala Pro Pro Gly Gly Asp
 500 505 510
 Arg Ser Thr Gly Gly Gly Gly Gly Asp Gly Gly Gly Gly Gly Gly
 515 520 525
 Ala Glu Ala Gly Thr Gly Ala Gly Gly Gly Cys Gly Ser Cys Cys Pro
 530 535 540
 Gly Gly Leu Arg Arg Ser Leu Leu Leu His Gly Ala Arg Ser Lys Pro
 545 550 555 560
 Tyr Ser Cys Pro Glu Cys Gly Lys Ser Phe Gly Val Arg Lys Ser Leu
 565 570 575
 Ile Ile His His Arg Ser His Thr Lys Glu Arg Pro Tyr Glu Cys Ala

```

      580      585      590
Glu Cys Glu Lys Ser Phe Asn Cys His Ser Gly Leu Ile Arg His Gln
      595      600      605
Met Thr His Arg Gly Glu Arg Pro Tyr Lys Cys Ser Glu Cys Glu Lys
      610      615      620
Thr Tyr Ser Arg Lys Glu His Leu Gln Asn His Gln Arg Leu His Thr
625      630      635      640
Gly Glu Arg Pro Phe Gln Cys Ala Leu Cys Gly Lys Ser Phe Ile Arg
      645      650      655
Lys Gln Asn Leu Leu Lys His Gln Arg Ile His Thr Gly Glu Arg Pro
      660      665      670
Tyr Thr Cys Gly Glu Cys Gly Lys Ser Phe Arg Tyr Lys Glu Ser Leu
      675      680      685
Lys Asp His Leu Arg Val His Ser Gly Gly Pro Gly Pro Gly Ala Pro
      690      695      700
Arg Gln Leu Pro Pro Pro Glu Arg Asp
705      710

```

<210> 4061
 <211> 519
 <212> DNA
 <213> Homo sapiens

```

<400> 4061
ctacaagccg gccaccctgg ccatgaccca tctcaacctg agctacaatc aggacacaca
60
ccctgccatt aatgatgttt tgtgggcttg tgcgcttagc cactcccttg gtaaaaatga
120
gcttgagctc ataatacctc tgggtggtcaa gagtgtcaag tgtgcaacgg tactgtcaga
180
cattttgcgc agatgcactc tgaccactcc tggcatggtg ggacttcatt ggaggaggaa
240
ctctggttaag ctcatgtcac tggacaaagc ccccttgagg caactcttgg atgccacgat
300
cggggcctac atcaacacaa cgcaactcag gctcacacac atcagtcctc ggcactatag
360
tgagtttata gagttcctca gcaaagcccg agagaccttc ttaatggcgc atgatggaca
420
cattcagttt acacagttta ttgacaacct gaaacaaatc tacaaaggca aaaagaaact
480
gatgatgttg gttcggagag aggtttggtt gatagatct
519

```

<210> 4062
 <211> 165
 <212> PRT
 <213> Homo sapiens

```

<400> 4062
Met Thr His Leu Asn Leu Ser Tyr Asn Gln Asp Thr His Pro Ala Ile
1      5      10      15
Asn Asp Val Leu Trp Ala Cys Ala Leu Ser His Ser Leu Gly Lys Asn
20      25      30
Glu Leu Ala Ala Ile Ile Pro Leu Val Val Lys Ser Val Lys Cys Ala

```

```

<400> 4063
tcctcacgac accacctcgg cctctgcac caggaagaag caaaggacca gcaagccacg
60
ccaatggcac cccctggcct gccactatgg ctgctgtcca ccgctctcct ctccctgctg
120
gctggcagct cggccttctt ctcccatccc cgctgaagg gacgcttcca gagggaccgc
180
aggaacatcc gcccacaacat catcttggtg cttacggatg accaggatgt ggagctgggt
240
tccatgcaag tgatgaacaa gacaaggcgt atcatggagc agggcgggac gcacttcac
300
aacgccttcg tgaccacacc catgtgtgct cctcacgct cctccatcct caccggcaag
360
tacgtccaca accacaacac ctacaccaac aatgagaact gtcctcgcct ctccctggcag
420
gccagcacg agagccgcac cttcgccgtg tacctcaata gcactggcta ccggacagct
480
ttcttcggga agtatcttaa tgaatacaac ggctcctacg tgccaccgcg ctggaaggag
540
tgggtcggac tccttaaaaa ctcccgttt tataactaca cgctgtgtcg gaacgggggtg
600
aaagagaagc acggctccga ctactccaag gattacctca cagacctcat caccaatgac
660
agcgtgagct tcttcgcac gtccaagaag atgtaccgcg acaggccagt cctcatggtc
720
atcagccatg cagcccccca cggccctgag gattcagccc cacaatatc acgcctcttc
780
ccaaacgcat ctccagcacat cacgccgagc tacaactacg cgcccgaccc ggacaaacac
840
tggtatcatg gctacacggg gcccatgaag cccatccaca tggaattcac caacatgctc
900

```

cagcgggaagc gcttgcagac cctcatgtcg gtggacgact ccatggagac gatttacaac
960
atgctgggtg agacgggcga gctggacaac acgtacatcg tatacaccgc cgaccacggt
1020
taccacatcg gccagtttgg cctggtgaaa gggaaatcca tgccatatga gtttgacatc
1080
aggggtcccg tctacgtgag gggccccaac gtggaagccg gctgtctgaa tccccacatc
1140
gtcctcaaca ttgacctggc cccaccatc ctggacattg caggcctgga catacctgcg
1200
gatatggacg ggaaatccat cctcaagctg ctggacacgg agcggccggt gaatcggttt
1260
cacttgaaaa agaagatgag ggtctggcgg gactccttct tggaggagag aggcaagctg
1320
ctacacaaga gagacaatga caaggtggac gcccaggagg agaactttct gccaagtac
1380
cagcgtgtga aggacctgtg tcagcgtgct gagtaccaga cggcgtgtga gcagctggga
1440
cagaagtggc agtgtgtgga ggacgccacg gggaaagctga agctgcataa gtgcaagggc
1500
cccatgcggc tgggcggcag cagagccctc tccaacctcg tgcccaagta ctacgggcag
1560
ggcagcgagg cctgcacctg tgacagcggg gactacaagc tcagcctggc cggacgccgg
1620
aaaaaanctc ttcaagaaga anngtacaag gccagctatg tccgcaatcg ctccatccgc
1680
tcagtggcca tcgaggtgga cggcaggggtg taccacgtag gcctgggtga tgccgccag
1740
ccccgaaacc tcaccaagcg gcactggcca ggggcccctg aggaccaaga tgacaaggat
1800
ggtggggacn nttagtggc actggaggcc tccccgacta ctcagccgc aaccnccatt
1860
aaagtgcac atcgggtgcta catcctagag aacgacacag tccagtgtga cctggacctg
1920
tacaagtccc tgaggcctg gaaagaccac aagctgcaca tcgaccacga gattgaaacc
1980
ctgcagaaca aaattaagaa cctgagggaa gtccgaggtc acctgaagaa aaagcgcca
2040
gaagaatgtg actgtcaca aatcagctac cacaccacg acaaaggccg cctcaagcac
2100
agaggctcca gtctgcatcc tttcaggaag ggcctgcaag agaaggacaa ggtgtggctg
2160
ttgcgggagc agaagcgcaa gaagaaactc cgcaagctgc tcaagcgcct gcagaacaac
2220
gacacgtgca gcatgccagg cctcacgtgc ttcacccacg acaaccagca ctggcagacg
2280
gcgcctttct ggacactggg gcctttctgt gcctgcacca gcgccaacaa taacacgtac
2340
tggtgcatga ggaccatcaa tgagactcac aatttcctct tctgtgaatt tgcaactggc
2400
ttcctagagt actttgatct caacacagac ccctaccagc tgatgaatgc agtgaacaca
2460
ctggacaggg atgtcctcaa ccagctacac gtgcagctca tggagctgag gagctgcaag
2520

ggttacaagc agtgtaaccc cgggactcga aacatggacc tgggacttaa agatggagga
2580
agctatgagc aatacaggca gtttcagcgt cgaaagtggc cagaaatgaa gagaccttct
2640
tccaaatcac tgggacaact gtgggaaggc tgggaagggt aagaacaac agaggtggac
2700
ctccaaaaac atagaggcat cacctgactg cacaggcaat gaaaaacat gtgggtgatt
2760
tccagcagac ctgtgctatt ggccaggagg cctgagaaag caagcacgca ctctcagtca
2820
acatgacaga ttctggagga taaccagcag gagcagagat aacttcagga agtccatttt
2880
tgccctgct tttgctttgg attatacctc accagctgca caaaatgcat ttttcgtat
2940
caaaaagtca ccactaacc cccccagaa gctcacaag gaaaacggag agagcgagcg
3000
agagagattt ccttggaat ttctcccaag ggcgaaagtc attggaattt ttaaatcata
3060
ggggaaaagc agtcctgttc taaatcctct tattcttttg gtttgtcaca aagaaggaaac
3120
taagaagcag gacagaggca acgtggagag gctgaaaaca gtgcagagac gtttgacaat
3180
gagtcagtag cacaaaagag atgacattta cctagcacta taaaccctgg ttgcctctga
3240
agaaactgcc ttcatgtat atatgtgact atttacatgt aatcaacatg ggaactttta
3300
ggggaaccta ataagaaatc ccaattttca ggagtgggtg tgtcaataaa cgctctgtgg
3360
ccagtgtaaa agaaaatccc tcgcagttgt ggacatttct gttcctgtcc agataccatt
3420
tctcctagta tttctttgtt atgtcccaga actgatgttt tttttttaag gtactgaaaa
3480
gaaatgaagt tgatgtatgt cccaagtttt gatgaaactg tatttgtaaa aaaaattttg
3540
tagtttaagt attgtcatat agtgttcaaa accccagcca atgaccagca gttggtatga
3600
agaacctttg acattttgta aaaggccatt tctttcttgg gagttttttg gtgtgtctgt
3660
ttttttaag tattcaagat actaccagtc aacatctttt tggaagaaaa tgccttgggt
3720
ttagaagatt ttcttaaaag gggagtagat ggtttagat tgactaaaaa gtctaccata
3780
cttcaaggga ctacaggtaa gtctcatagt ataccagctt tggtaactca ttttttaaaa
3840
aagtattaat caattgcaaa gaaattcgcc ttggccaacc cttctttgtg tatcaggtag
3900
tctaactga tacaagtagt tgacagattt caactatcaa tcaccagtcc aaccatttc
3960
tcatttaaca gatgacggag ataatcccta aaagcaccca catttgtttc aatgccccaa
4020
acaggccaag gctccctagc aactccctag tggcggtttt taacttctca gaaactgtta
4080
ccattatttg aaataggctt ccttaacctc ctttaccctt aaccaacag ggattta
4137

<210> 4064
 <211> 818
 <212> PRT
 <213> Homo sapiens

<400> 4064

```

Asp Val Glu Leu Gly Ser Met Gln Val Met Asn Lys Thr Arg Arg Ile
 1           5           10           15
Met Glu Gln Gly Gly Thr His Phe Ile Asn Ala Phe Val Thr Thr Pro
           20           25           30
Met Cys Cys Pro Ser Arg Ser Ser Ile Leu Thr Gly Lys Tyr Val His
           35           40           45
Asn His Asn Thr Tyr Thr Asn Asn Glu Asn Cys Ser Ser Pro Ser Trp
           50           55           60
Gln Ala Gln His Glu Ser Arg Thr Phe Ala Val Tyr Leu Asn Ser Thr
65           70           75           80
Gly Tyr Arg Thr Ala Phe Phe Gly Lys Tyr Leu Asn Glu Tyr Asn Gly
           85           90           95
Ser Tyr Val Pro Pro Gly Trp Lys Glu Trp Val Gly Leu Leu Lys Asn
           100          105          110
Ser Arg Phe Tyr Asn Tyr Thr Leu Cys Arg Asn Gly Val Lys Glu Lys
           115          120          125
His Gly Ser Asp Tyr Ser Lys Asp Tyr Leu Thr Asp Leu Ile Thr Asn
           130          135          140
Asp Ser Val Ser Phe Phe Arg Thr Ser Lys Lys Met Tyr Pro His Arg
145          150          155          160
Pro Val Leu Met Val Ile Ser His Ala Ala Pro His Gly Pro Glu Asp
           165          170          175
Ser Ala Pro Gln Tyr Ser Arg Leu Phe Pro Asn Ala Ser Gln His Ile
           180          185          190
Thr Pro Ser Tyr Asn Tyr Ala Pro Asp Pro Asp Lys His Trp Ile Met
           195          200          205
Arg Tyr Thr Gly Pro Met Lys Pro Ile His Met Glu Phe Thr Asn Met
           210          215          220
Leu Gln Arg Lys Arg Leu Gln Thr Leu Met Ser Val Asp Asp Ser Met
225          230          235          240
Glu Thr Ile Tyr Asn Met Leu Val Glu Thr Gly Glu Leu Asp Asn Thr
           245          250          255
Tyr Ile Val Tyr Thr Ala Asp His Gly Tyr His Ile Gly Gln Phe Gly
           260          265          270
Leu Val Lys Gly Lys Ser Met Pro Tyr Glu Phe Asp Ile Arg Val Pro
           275          280          285
Phe Tyr Val Arg Gly Pro Asn Val Glu Ala Gly Cys Leu Asn Pro His
           290          295          300
Ile Val Leu Asn Ile Asp Leu Ala Pro Thr Ile Leu Asp Ile Ala Gly
305          310          315          320
Leu Asp Ile Pro Ala Asp Met Asp Gly Lys Ser Ile Leu Lys Leu Leu
           325          330          335
Asp Thr Glu Arg Pro Val Asn Arg Phe His Leu Lys Lys Lys Met Arg
           340          345          350
Val Trp Arg Asp Ser Phe Leu Val Glu Arg Gly Lys Leu Leu His Lys
           355          360          365
Arg Asp Asn Asp Lys Val Asp Ala Gln Glu Glu Asn Phe Leu Pro Lys

```

370	375	380
Tyr Gln Arg Val Lys Asp	Leu Cys Gln Arg Ala Glu	Tyr Gln Thr Ala
385	390	395
Cys Glu Gln Leu Gly Gln Lys	Trp Gln Cys Val Glu Asp	Ala Thr Gly
405	410	415
Lys Leu Lys Leu His Lys Cys	Lys Gly Pro Met Arg Leu	Gly Gly Ser
420	425	430
Arg Ala Leu Ser Asn Leu Val	Pro Lys Tyr Tyr Gly Gln	Gly Ser Glu
435	440	445
Ala Cys Thr Cys Asp Ser Gly	Asp Tyr Lys Leu Ser Leu	Ala Gly Arg
450	455	460
Arg Lys Lys Xaa Leu Gln Glu	Glu Xaa Tyr Lys Ala Ser	Tyr Val Arg
465	470	475
Asn Arg Ser Ile Arg Ser Val	Ala Ile Glu Val Asp Gly	Arg Val Tyr
485	490	495
His Val Gly Leu Gly Asp Ala	Ala Gln Pro Arg Asn Leu	Thr Lys Arg
500	505	510
His Trp Pro Gly Ala Pro Glu	Asp Gln Asp Asp Lys Asp	Gly Gly Asp
515	520	525
Xaa Ser Val Ala Leu Glu Ala	Phe Pro Thr Thr Gln Pro	Pro Thr Xaa
530	535	540
Ile Lys Val Thr His Arg Cys	Tyr Ile Leu Glu Asn Asp	Thr Val Gln
545	550	555
Cys Asp Leu Asp Leu Tyr Lys	Ser Leu Gln Ala Trp Lys	Asp His Lys
565	570	575
Leu His Ile Asp His Glu Ile	Glu Thr Leu Gln Asn Lys	Ile Lys Asn
580	585	590
Leu Arg Glu Val Arg Gly His	Leu Lys Lys Lys Arg Pro	Glu Glu Cys
595	600	605
Asp Cys His Lys Ile Ser Tyr	His Thr Gln His Lys Gly	Arg Leu Lys
610	615	620
His Arg Gly Ser Ser Leu His	Pro Phe Arg Lys Gly Leu	Gln Glu Lys
625	630	635
Asp Lys Val Trp Leu Leu Arg	Glu Gln Lys Arg Lys Lys	Lys Leu Arg
645	650	655
Lys Leu Leu Lys Arg Leu Gln	Asn Asn Asp Thr Cys Ser	Met Pro Gly
660	665	670
Leu Thr Cys Phe Thr His Asp	Asn Gln His Trp Gln Thr	Ala Pro Phe
675	680	685
Trp Thr Leu Gly Pro Phe Cys	Ala Cys Thr Ser Ala Asn	Asn Asn Thr
690	695	700
Tyr Trp Cys Met Arg Thr Ile	Asn Glu Thr His Asn Phe	Leu Phe Cys
705	710	715
Glu Phe Ala Thr Gly Phe Leu	Glu Tyr Phe Asp Leu Asn	Thr Asp Pro
725	730	735
Tyr Gln Leu Met Asn Ala Val	Asn Thr Leu Asp Arg Asp	Val Leu Asn
740	745	750
Gln Leu His Val Gln Leu Met	Glu Leu Arg Ser Cys Lys	Gly Tyr Lys
755	760	765
Gln Cys Asn Pro Arg Thr Arg	Asn Met Asp Leu Gly Leu	Lys Asp Gly
770	775	780
Gly Ser Tyr Glu Gln Tyr Arg	Gln Phe Gln Arg Arg Lys	Trp Pro Glu
785	790	795
Met Lys Arg Pro Ser Ser Lys	Ser Leu Gly Gln Leu Trp	Glu Gly Trp

805 810 815

Glu Gly

<210> 4065
 <211> 696
 <212> DNA
 <213> Homo sapiens

<400> 4065
 ngcgcgcccc ctgctcgggtg gcaggagggc cggcggagcg ccatggcctg catcctgaag
 60
 agaaagtctg tgattgctgt gagcttcata gcagcgttcc ttttcctgct gggtgtgcgt
 120
 cttgtaaatg aagtgaattt cccattgcta ctaaactgct ttggacaacc tggtaaaaag
 180
 tggataccat tctctacac atacaggcgg ccccttcgaa ctactatgg atacataaat
 240
 gtgaagacac aagagccttt gcaactggac tgtgaccttt gtgccatagt gtcaaaactca
 300
 ggtcagatgg ttggccagaa ggtgggaaat gagatagatc gatcctcctg catttggaga
 360
 atgaacaatg cccccaccaa aggttatgaa gaagatgtcg gccgcatgac catgattcga
 420
 gttgtgtccc ataccagcgt tcctcttttg ctaaaaaacc ctgattattt tttcaaggaa
 480
 gcgaatacta ctatttatgt tatttgggga cctttccgca atatgaggaa agatggcaat
 540
 ggcacgtnt acaacatggt gaaaaagaca gttggtatct atccgaatgc ccaaataac
 600
 gtgaccacag agaagcgcag gagttactgt gatggagttt taagaaggaa anctgggaag
 660
 gacgtacag agtgaccatg cagtgttgat tgatca
 696

<210> 4066
 <211> 210
 <212> PRT
 <213> Homo sapiens

<400> 4066
 Met Ala Cys Ile Leu Lys Arg Lys Ser Val Ile Ala Val Ser Phe Ile
 1 5 10 15
 Ala Ala Phe Leu Phe Leu Leu Val Val Arg Leu Val Asn Glu Val Asn
 20 25 30
 Phe Pro Leu Leu Leu Asn Cys Phe Gly Gln Pro Gly Thr Lys Trp Ile
 35 40 45
 Pro Phe Ser Tyr Thr Tyr Arg Arg Pro Leu Arg Thr His Tyr Gly Tyr
 50 55 60
 Ile Asn Val Lys Thr Gln Glu Pro Leu Gln Leu Asp Cys Asp Leu Cys
 65 70 75 80
 Ala Ile Val Ser Asn Ser Gly Gln Met Val Gly Gln Lys Val Gly Asn
 85 90 95
 Glu Ile Asp Arg Ser Ser Cys Ile Trp Arg Met Asn Asn Ala Pro Thr

	100		105		110										
Lys	Gly	Tyr	Glu	Glu	Asp	Val	Gly	Arg	Met	Thr	Met	Ile	Arg	Val	Val
	115		120		125										
Ser	His	Thr	Ser	Val	Pro	Leu	Leu	Leu	Lys	Asn	Pro	Asp	Tyr	Phe	Phe
	130		135		140										
Lys	Glu	Ala	Asn	Thr	Thr	Ile	Tyr	Val	Ile	Trp	Gly	Pro	Phe	Arg	Asn
145			150		155				160						
Met	Arg	Lys	Asp	Gly	Asn	Gly	Ile	Val	Tyr	Asn	Met	Leu	Lys	Lys	Thr
	165		170		175										
Val	Gly	Ile	Tyr	Pro	Asn	Ala	Gln	Ile	Tyr	Val	Thr	Thr	Glu	Lys	Arg
	180		185		190										
Met	Ser	Tyr	Cys	Asp	Gly	Val	Leu	Arg	Arg	Lys	Xaa	Gly	Lys	Asp	Ser
	195		200		205										
Thr	Glu														
	210														

<210> 4067

<211> 1800

<212> DNA

<213> Homo sapiens

<400> 4067

```

nnatctgatg agcttctttc ttctggcatc attaacggac cttttacat gaatagttct
60
actccttcta cagctaattg gaatgacagc aagaaattta aacgagatag acctccctgt
120
tcgccttccc gtgttctcca tcttcgaaaa attccatgtg atgtcaccga agcagagatc
180
atatcattag gtctaccatt tggcaaagta actaatcttt tgatgttgaa aggaaaaagc
240
caggctttct tagaaatggc ttctgaggaa gctgccgtta ctatggtgaa ttattacact
300
cctattactc ctcaccttcg aagccagcct gtttatattc agtattccaa tcacagagaa
360
cttaagactg acaatctacc taatcaagct cgagcccaag ctgcactgca ggctgtcagt
420
gccgtccaat caggaagcct ggccctttct ggaggtcctt ccaatgaagg cacagtctta
480
cctgggcaga gccctgtgct tcgaataatt attgaaaacc tcttttacct tgttaccctg
540
gaagttcttc atcagatatt ttctaaattt ggcacagtct tgaagattat cacctttaca
600
aagaataatc agtttcaagc cttgcttcag tatgctgacc cagtaaatgc acattatgcc
660
aaaatggctc tggatggcca gaatatctat aatgcattgt gcactctgag cattgacttc
720
tccaagctca ccagccttaa tgtgaaatat aataatgaca aaagcagaga cttcactcgc
780
ttagaccttc ctactggtga tggccagcca tcccttgaac cccctatggc tgctgctttt
840
ggtgcaccgg gtataatttc ttcacatat gcaggggctg ctggatttgc cccagccatt
900
ggatttcctc aagctacagg tctatcagtt ccagctgttc ctggagctct tggctccttc
960

```

acaatcacct cttctgctgt cactggaagg atggccattc ctggggctag tggatatacca
 1020
 ggaaattctg ttctactcgt cacaaatctc aatcctgatc ttatcacacc acatggggctt
 1080
 tttatcctat ttggagtcta tgggtgatgta catcgagtga agattatggt taataagaaa
 1140
 gaaaatgcct tgggttcagat ggcggatgca aatcaagctc agctagcaat gaaccatcta
 1200
 agtggtcaga gactttatgg gaaagtgcct cgtgctacac tgtccaaaca tcaagcagta
 1260
 cagcttcctc gagagggaca agaagaccaa ggtctgacta aggatttcag caatagtcct
 1320
 ttgcatcgct ttaaaaagcc gggctctaaa aacttcagga atatctttcc accatcagcc
 1380
 actctgcac tttccaacat tcccccttct gttacagtgg atgatctgaa gaaccttttc
 1440
 atagaagctg gatgttcagt gaaggctttt aaattctttc agaaagatcg caaaatggcg
 1500
 ctcattcaat tgggatctgt ggaagaagca attcaggccc tcattgagct tcataaccat
 1560
 gaccttgag aaaaacacca cctcagagtt tccttctcaa aatctacaat ctgacttttc
 1620
 tgtgaatttt tctcctaaaa ctggaccata atttcagtaa aaccttcaga catagactga
 1680
 agcagctcaa gaccaatttt gcctctttca caaaaataac tctttctgag tttgatattc
 1740
 aagtatatat taaaaatcaa gggatttttt ttttttgtat tccccctgca aaaaaaaaaa
 1800

<210> 4068

<211> 521

<212> PRT

<213> Homo sapiens

<400> 4068

Met	Asn	Ser	Ser	Thr	Pro	Ser	Thr	Ala	Asn	Gly	Asn	Asp	Ser	Lys	Lys
1				5					10					15	
Phe	Lys	Arg	Asp	Arg	Pro	Pro	Cys	Ser	Pro	Ser	Arg	Val	Leu	His	Leu
		20						25					30		
Arg	Lys	Ile	Pro	Cys	Asp	Val	Thr	Glu	Ala	Glu	Ile	Ile	Ser	Leu	Gly
		35					40					45			
Leu	Pro	Phe	Gly	Lys	Val	Thr	Asn	Leu	Leu	Met	Leu	Lys	Gly	Lys	Ser
		50				55					60				
Gln	Ala	Phe	Leu	Glu	Met	Ala	Ser	Glu	Glu	Ala	Ala	Val	Thr	Met	Val
65					70					75				80	
Asn	Tyr	Tyr	Thr	Pro	Ile	Thr	Pro	His	Leu	Arg	Ser	Gln	Pro	Val	Tyr
			85					90					95		
Ile	Gln	Tyr	Ser	Asn	His	Arg	Glu	Leu	Lys	Thr	Asp	Asn	Leu	Pro	Asn
			100					105				110			
Gln	Ala	Arg	Ala	Gln	Ala	Ala	Leu	Gln	Ala	Val	Ser	Ala	Val	Gln	Ser
		115					120					125			
Gly	Ser	Leu	Ala	Leu	Ser	Gly	Gly	Pro	Ser	Asn	Glu	Gly	Thr	Val	Leu
		130				135					140				
Pro	Gly	Gln	Ser	Pro	Val	Leu	Arg	Ile	Ile	Ile	Glu	Asn	Leu	Phe	Tyr

145					150					155					160
Pro	Val	Thr	Leu	Glu	Val	Leu	His	Gln	Ile	Phe	Ser	Lys	Phe	Gly	Thr
				165					170					175	
Val	Leu	Lys	Ile	Ile	Thr	Phe	Thr	Lys	Asn	Asn	Gln	Phe	Gln	Ala	Leu
			180					185					190		
Leu	Gln	Tyr	Ala	Asp	Pro	Val	Asn	Ala	His	Tyr	Ala	Lys	Met	Ala	Leu
		195					200					205			
Asp	Gly	Gln	Asn	Ile	Tyr	Asn	Ala	Cys	Cys	Thr	Leu	Arg	Ile	Asp	Phe
	210					215					220				
Ser	Lys	Leu	Thr	Ser	Leu	Asn	Val	Lys	Tyr	Asn	Asn	Asp	Lys	Ser	Arg
225					230					235					240
Asp	Phe	Thr	Arg	Leu	Asp	Leu	Pro	Thr	Gly	Asp	Gly	Gln	Pro	Ser	Leu
				245					250					255	
Glu	Pro	Pro	Met	Ala	Ala	Ala	Phe	Gly	Ala	Pro	Gly	Ile	Ile	Ser	Ser
			260					265					270		
Pro	Tyr	Ala	Gly	Ala	Ala	Gly	Phe	Ala	Pro	Ala	Ile	Gly	Phe	Pro	Gln
	275						280					285			
Ala	Thr	Gly	Leu	Ser	Val	Pro	Ala	Val	Pro	Gly	Ala	Leu	Gly	Pro	Leu
	290					295					300				
Thr	Ile	Thr	Ser	Ser	Ala	Val	Thr	Gly	Arg	Met	Ala	Ile	Pro	Gly	Ala
305					310					315					320
Ser	Gly	Ile	Pro	Gly	Asn	Ser	Val	Leu	Leu	Val	Thr	Asn	Leu	Asn	Pro
				325					330					335	
Asp	Leu	Ile	Thr	Pro	His	Gly	Leu	Phe	Ile	Leu	Phe	Gly	Val	Tyr	Gly
			340					345					350		
Asp	Val	His	Arg	Val	Lys	Ile	Met	Phe	Asn	Lys	Lys	Glu	Asn	Ala	Leu
	355						360					365			
Val	Gln	Met	Ala	Asp	Ala	Asn	Gln	Ala	Gln	Leu	Ala	Met	Asn	His	Leu
	370					375					380				
Ser	Gly	Gln	Arg	Leu	Tyr	Gly	Lys	Val	Leu	Arg	Ala	Thr	Leu	Ser	Lys
385					390					395					400
His	Gln	Ala	Val	Gln	Leu	Pro	Arg	Glu	Gly	Gln	Glu	Asp	Gln	Gly	Leu
				405					410					415	
Thr	Lys	Asp	Phe	Ser	Asn	Ser	Pro	Leu	His	Arg	Phe	Lys	Lys	Pro	Gly
			420					425					430		
Ser	Lys	Asn	Phe	Gln	Asn	Ile	Phe	Pro	Pro	Ser	Ala	Thr	Leu	His	Leu
	435					440						445			
Ser	Asn	Ile	Pro	Pro	Ser	Val	Thr	Val	Asp	Asp	Leu	Lys	Asn	Leu	Phe
	450					455				460					
Ile	Glu	Ala	Gly	Cys	Ser	Val	Lys	Ala	Phe	Lys	Phe	Phe	Gln	Lys	Asp
465					470					475					480
Arg	Lys	Met	Ala	Leu	Ile	Gln	Leu	Gly	Ser	Val	Glu	Glu	Ala	Ile	Gln
				485					490					495	
Ala	Leu	Ile	Glu	Leu	His	Asn	His	Asp	Leu	Gly	Glu	Asn	His	His	Leu

<210> 4069

<211> 714

<212> DNA

<213> Homo sapiens

<400> 4069

agtaccatta taacgaattt tgagaggttg gtaaaaggag attggaaacc agaaggtgat
 60
 gaatggctga agatgtcata ccctgccaaag gtaaccctgc tggggtcagt tatcttcaca
 120
 ttccagcaca cccagcatct ggcaatatca aagcataatc ttatgttcct ttataccatc
 180
 tttattgttg ccacaaagat aaccatgatg actacacaga cttctactat gacatttgct
 240
 ccttttgagg atacattgag ttggatgcta tttggctggc agcagccgtt ttcacatgt
 300
 gagaagaaaa gtgaagcaaa gtcaccttcc aatggcggtg ggtcattggc ctcaaagccg
 360
 gtagatgttg cctcagataa tgttaaaaag aaacatacta agaagaatga ataaatttac
 420
 gtgatgagct ctacaaggcc aaaaattttt tttcttatct acctgttata ttgtgcta
 480
 tttctatgt atgtgatgtg aaatgaagac tatatatatg gaatggaggt gacagaaaga
 540
 aagaaattct ttgtttgagg gagacttccc ctttctggat tgtatttgta gagtgttacg
 600
 agtgtatcat gtgattatgc tttaccggtg taagagattc tgttgtgatt atttgaatag
 660
 ttttatatta ataaaagaag acaaaatttt ttaaagtgtta aaaaaagcag atct
 714

<210> 4070

<211> 113

<212> PRT

<213> Homo sapiens

<400> 4070

Met	Ser	Tyr	Pro	Ala	Lys	Val	Thr	Leu	Leu	Gly	Ser	Val	Ile	Phe	Thr
1				5					10					15	
Phe	Gln	His	Thr	Gln	His	Leu	Ala	Ile	Ser	Lys	His	Asn	Leu	Met	Phe
			20					25					30		
Leu	Tyr	Thr	Ile	Phe	Ile	Val	Ala	Thr	Lys	Ile	Thr	Met	Met	Thr	Thr
			35				40					45			
Gln	Thr	Ser	Thr	Met	Thr	Phe	Ala	Pro	Phe	Glu	Asp	Thr	Leu	Ser	Trp
			50			55					60				
Met	Leu	Phe	Gly	Trp	Gln	Gln	Pro	Phe	Ser	Ser	Cys	Glu	Lys	Lys	Ser
65					70					75				80	
Glu	Ala	Lys	Ser	Pro	Ser	Asn	Gly	Val	Gly	Ser	Leu	Ala	Ser	Lys	Pro
				85					90					95	
Val	Asp	Val	Ala	Ser	Asp	Asn	Val	Lys	Lys	Lys	His	Thr	Lys	Lys	Asn
			100					105					110		

Glu

<210> 4071

<211> 601

<212> DNA

<213> Homo sapiens

<400> 4071

ggctctggag gaggaaggcc tctggtgctc acttcaaagg catcgagaag aacttggtcc
 60
 cagacttgca gcggacttgc tcagtgtgca cgcgcagcag cacctcagca tcttcaaacc
 120
 cateccagat tgcctgtagt tcctgcaggc actgcccctc cagctggaga cgtgcatcac
 180
 ccacacacca ggccaggctg aggtggaaag aaggatcctg gtagaaagtg gtgaggttga
 240
 attcctccat gactctgtcc acctctgaaa ccagggtccag gaactgggca tgccttgaag
 300
 tgacctcaag cccaataaag gtcctgggtt tctcttgatt ggtgtaaatc tttacctggt
 360
 tggcagtaaa gaagaatctg tggaaggagg tcatacgggc tttcagagcc tgcacgaagg
 420
 ggaggatcca gtggtggcgc agaaccacac tctgggacag gctgaggtgg aacaccttca
 480
 tccttaccag ccgggggacg agtgcgacc ttccccacg agcgaggcaa ctggggccacc
 540
 caggtctatg taccatatga agccaaggag gagttcctgg atctgcttga tgtgttgctg
 600
 c
 601

<210> 4072

<211> 175

<212> PRT

<213> Homo sapiens

<400> 4072

Met	Val	His	Arg	Arg	Gly	Trp	Pro	Ser	Cys	Leu	Ala	Arg	Gly	Gly	Arg
1				5					10					15	
Cys	Ala	Leu	Val	Pro	Arg	Leu	Val	Arg	Met	Lys	Val	Phe	His	Leu	Ser
			20					25				30			
Leu	Ser	Gln	Ser	Val	Val	Leu	Arg	His	His	Trp	Ile	Leu	Pro	Phe	Val
		35					40					45			
Gln	Ala	Leu	Lys	Ala	Arg	Met	Thr	Ser	Phe	His	Arg	Phe	Phe	Phe	Thr
		50				55					60				
Ala	Asn	Gln	Val	Lys	Ile	Tyr	Thr	Asn	Gln	Glu	Lys	Thr	Arg	Thr	Phe
65					70					75				80	
Ile	Gly	Leu	Glu	Val	Thr	Ser	Gly	His	Ala	Gln	Phe	Leu	Asp	Leu	Val
			85					90					95		
Ser	Glu	Val	Asp	Arg	Val	Met	Glu	Glu	Phe	Asn	Leu	Thr	Thr	Phe	Tyr
		100					105					110			
Gln	Asp	Pro	Ser	Phe	His	Leu	Ser	Leu	Ala	Trp	Cys	Val	Gly	Asp	Ala
		115					120					125			
Arg	Leu	Gln	Leu	Glu	Gly	Gln	Cys	Leu	Gln	Glu	Leu	Gln	Ala	Ile	Val
		130				135					140				
Asp	Gly	Phe	Glu	Asp	Ala	Glu	Val	Leu	Leu	Arg	Val	His	Thr	Glu	Gln
145					150					155				160	
Val	Arg	Cys	Lys	Ser	Gly	Asn	Lys	Phe	Phe	Ser	Met	Pro	Leu	Lys	
			165					170						175	

<210> 4073

<211> 1864

<212> DNA

<213> Homo sapiens

<400> 4073

```

nnacgcgtga aggggggtgaa ggggggtgtcc cgggggacgg gctgaacctc agtcaggacc
60
gcctgcaccg cagtccgggg atcgggtcga ggggagaaga aaaaggggtg ctccggagca
120
gcccccggtt acctcccctg gaggcacaga gggcgggggc cttggcgaat ggctttcttg
180
ctggccactt gcggagttag tagaccccgga ggggtctggga gaggggcccgg cccctacccc
240
tgagtccccg ggggtcccggc cgccaggccg gagcgcgaaat gtcgtgctca ccctgcctcc
300
ttcccgcggc cccctggggg tttggattca ggatttgttc ctagtgtcca agattttgat
360
aagaaactta cagaagctga tgcttaccta caaatcttga ttgaacaatt aaagcttttt
420
gatgacaagc ttcaaaactg caaagaagat gaacagagaa agaaaattga aactctcaaa
480
gagacaacaa atagcatggg agaatcaatt aaacactgca ttgtgttgct gcagattgcc
540
aaagaccaga gtaatgcgga gaagcacgca gatggaatga taagtactat taatcccgtg
600
gatgcaatat atcaacctag tcctttggaa cctgtgatca gcacaatgcc ttcccagact
660
gtgttacctc cagaacctgt tcagttgtgt aagtcagagc agcgtccatc ttccctacca
720
gttggacctg tgttggctac cttgggacat catcagactc ctacaccaaa tagtacaggc
780
agtggccatt caccaccgag tagcagtctc acttctccaa gccacgtgaa cttgtctcca
840
aatacagtcc cagagtctc ttactccagc agtgaagatg aattttatga tgcgtatgaa
900
ttccatcaaa gtggctcatc cccaaagcgc ttaatagatt cttctggatc tgcctcagtc
960
ctgacacaca gcagctcggg aaatagtcta aaacgcccag ataccacaga atcacttaat
1020
tcttccttgt ccaatggaac aagtgatgct gacctgtttg attcacatga tgacagagat
1080
gatgatgcgg aggcaggggc tgtggaggag cacaagagcg ttatcatgca tctcttctgc
1140
caggttagac ttggaatgga tcttactaag gtagttcttc caacgtttat tcttgaaaga
1200
agatctcttt tagaaatgta tgcagacttt tttgcacatc cggacctgtt tgtgagcatt
1260
agtgaccaga aggatcccaa ggatcgaatg gttcaggttg tgaaatggta cctctcagcc
1320
tttcatgcgg gaaggaaagg atcagttgcc aaaaagccat acaatcccat tttgggcgag
1380
atttttcagt gtcattggac attaccaa atgatactgaag agaacacaga actagtttca
1440
gaaggaccag ttccctgggt ttccaaaaac agtgtaacat ttgtggctga gcaggtttcc
1500

```

catcatccac ccatttcagc cttttatgct gagtgtttta acaagaagat acaattcaat
 1560
 gctcatatct ggaccaaadc aaaattcctt gggatgtcaa ttgggggtgca caacataggg
 1620
 cagggtctgtg tctcatgtct agactatgat gaacattaca ttctcacatt cccaatggc
 1680
 tatggaaggt ctatcctcac agtgccttgg gtggaattag gaggagaatg caatattaat
 1740
 tggtccaaaa caggctatag tgcaaatatc atcttcacac ctaaaccctt ctatgggggc
 1800
 aagaagcaca gaattactgc cgagattttt tctccaaatg acaagaagtc tttttgtc
 1860
 attg
 1864

<210> 4074

<211> 456

<212> PRT

<213> Homo sapiens

<400> 4074

Met	Val	Glu	Ser	Ile	Lys	His	Cys	Ile	Val	Leu	Leu	Gln	Ile	Ala	Lys
1				5					10					15	
Asp	Gln	Ser	Asn	Ala	Glu	Lys	His	Ala	Asp	Gly	Met	Ile	Ser	Thr	Ile
		20						25				30			
Asn	Pro	Val	Asp	Ala	Ile	Tyr	Gln	Pro	Ser	Pro	Leu	Glu	Pro	Val	Ile
		35				40					45				
Ser	Thr	Met	Pro	Ser	Gln	Thr	Val	Leu	Pro	Pro	Glu	Pro	Val	Gln	Leu
	50					55				60					
Cys	Lys	Ser	Glu	Gln	Arg	Pro	Ser	Ser	Leu	Pro	Val	Gly	Pro	Val	Leu
65					70				75					80	
Ala	Thr	Leu	Gly	His	His	Gln	Thr	Pro	Thr	Pro	Asn	Ser	Thr	Gly	Ser
			85					90						95	
Gly	His	Ser	Pro	Pro	Ser	Ser	Ser	Leu	Thr	Ser	Pro	Ser	His	Val	Asn
			100					105					110		
Leu	Ser	Pro	Asn	Thr	Val	Pro	Glu	Phe	Ser	Tyr	Ser	Ser	Ser	Glu	Asp
		115					120					125			
Glu	Phe	Tyr	Asp	Ala	Asp	Glu	Phe	His	Gln	Ser	Gly	Ser	Ser	Pro	Lys
	130					135					140				
Arg	Leu	Ile	Asp	Ser	Ser	Gly	Ser	Ala	Ser	Val	Leu	Thr	His	Ser	Ser
145				150						155				160	
Ser	Gly	Asn	Ser	Leu	Lys	Arg	Pro	Asp	Thr	Thr	Glu	Ser	Leu	Asn	Ser
			165						170					175	
Ser	Leu	Ser	Asn	Gly	Thr	Ser	Asp	Ala	Asp	Leu	Phe	Asp	Ser	His	Asp
			180					185					190		
Asp	Arg	Asp	Asp	Asp	Ala	Glu	Ala	Gly	Ser	Val	Glu	Glu	His	Lys	Ser
		195					200					205			
Val	Ile	Met	His	Leu	Leu	Ser	Gln	Val	Arg	Leu	Gly	Met	Asp	Leu	Thr
	210					215					220				
Lys	Val	Val	Leu	Pro	Thr	Phe	Ile	Leu	Glu	Arg	Arg	Ser	Leu	Leu	Glu
225				230						235				240	
Met	Tyr	Ala	Asp	Phe	Phe	Ala	His	Pro	Asp	Leu	Phe	Val	Ser	Ile	Ser
			245						250					255	
Asp	Gln	Lys	Asp	Pro	Lys	Asp	Arg	Met	Val	Gln	Val	Val	Lys	Trp	Tyr

```

                260                265                270
Leu Ser Ala Phe His Ala Gly Arg Lys Gly Ser Val Ala Lys Lys Pro
                275                280                285
Tyr Asn Pro Ile Leu Gly Glu Ile Phe Gln Cys His Trp Thr Leu Pro
                290                295                300
Asn Asp Thr Glu Glu Asn Thr Glu Leu Val Ser Glu Gly Pro Val Pro
305                310                315                320
Trp Val Ser Lys Asn Ser Val Thr Phe Val Ala Glu Gln Val Ser His
                325                330                335
His Pro Pro Ile Ser Ala Phe Tyr Ala Glu Cys Phe Asn Lys Lys Ile
                340                345                350
Gln Phe Asn Ala His Ile Trp Thr Lys Ser Lys Phe Leu Gly Met Ser
                355                360                365
Ile Gly Val His Asn Ile Gly Gln Gly Cys Val Ser Cys Leu Asp Tyr
370                375                380
Asp Glu His Tyr Ile Leu Thr Phe Pro Asn Gly Tyr Gly Arg Ser Ile
385                390                395                400
Leu Thr Val Pro Trp Val Glu Leu Gly Gly Glu Cys Asn Ile Asn Cys
                405                410                415
Ser Lys Thr Gly Tyr Ser Ala Asn Ile Ile Phe His Thr Lys Pro Phe
                420                425                430
Tyr Gly Gly Lys Lys His Arg Ile Thr Ala Glu Ile Phe Ser Pro Asn
435                440                445
Asp Lys Lys Ser Phe Cys Ser Ile
450                455

```

<210> 4075

<211> 2492

<212> DNA

<213> Homo sapiens

<400> 4075

```

ntgctggagg aggataacaa gttttgtgca gattgccagt ctaaagggcc gcgatgggcc
60
tcttgaaca ttggtgtgtt catctgcatt cgatgtgctg gaatccacag gaatctgggg
120
gtgcacatat ccagggtaaa gtcagttaac ctcgaccagt ggactcaaga acagattcag
180
tgcatgcaag agatgggaaa tggaaaggca aaccgacttt atgaagccta tcttcctgag
240
acctttcggc gacctcagat agaccagct gttgaaggat ttattcgaga caaatatgag
300
aagaagaaat acatggaccg aagtctggac atcaatgcct ttaggaaaga aaaagatgac
360
aagtggaaaa gagggagcga accagttcca gaaaaaaaaat tggaacctgt tgtttttgag
420
aaggtgaaaa tgccacagaa aaaagaagac ccacagctac ctcggaaaag ctccccgaaa
480
tccacagcgc ctgtcatgga tttgttgggc cttgatgctc ctgtggcctg ctccattgca
540
aatagtaaga ccagcaatac cctagagaag gatttagatc tgttggcctc tggtccatcc
600
ccttcttctt cgggttccag aaaggttgta ggttccatgc caactgcagg gagtgccggc
660

```

tctgttctctg aaaatctgaa cctgtttccg gagccaggga gcaaatacaga agaaataggc
720
aagaaacagc tctctaaaga ctccattctt tcaactgtatg gatcccagac gcctcaaatag
780
cctactcaag caatgttcat ggctcccgct cagatggcat atcccacagc ctaccccagc
840
ttccccgggg ttacacctcc taacagcata atggggagca tgatgcctcc accagtaggc
900
atgggttgctc agccaggagc ttctgggatg gttgccccca tggccatgcc tgcaggctat
960
atgggtggca tgcaggcatc aatgatgggt gtgccgaatg gaatgatgac caccagcag
1020
gctggctaca tggcaggcat ggcagctatg cccagactg tgtatggggc ccagccagct
1080
cagcagctgc aatggaacct tactcagatg acccagcaga tggctgggat gaacttctat
1140
ggagccaatg gcatgatgaa ctatggacag tcaatgagtg gcggaaatgg acaggcagca
1200
aatcagactc tcagtcctca gatgtggaaa taaaaacaaa acacctgtat ggctgccatt
1260
ctcttcagcc ctgctctcc cctttccaca gcctccacc ctgaccccca tcctcttttc
1320
ctacctctct gtttggttta gaaattgctc aataagtcac ttgggggttg gcatcctgcc
1380
cagccacttc ccaaactga agacctctct gttgctttat gttgtacatg ccccatagcc
1440
atcccaacgt cctccccagt cctctcctgg caccagcacc ttagaagttg ttggcagaag
1500
gcacttaaac tgtgggagaa gtgtgcacac ctttgagtcc cttccctcaa gggttaaagct
1560
cctgtcagac tctcagaagg gtctgtgggt gttgtatatt aggcaaacag gggaaagctt
1620
agaggtcctt ctatatgtgt taataagctg tttctaagtg tttaaatttg aaaagcatca
1680
tgttctcatg atttatggga atgaagcaag tactgaaatc aaattaaata ctccctgggt
1740
cctgggtcag tttgacccta gccctggggg gaggcaagcc ccctcctatg aggatgagca
1800
aaaatactac tctcttcgcc ctgagttgct ttctggatct ggggcttcag gacttgetgc
1860
ttcagtcagc ctttattagc accaaagact ttatgaagat ccacacaca gacacacatc
1920
ccttcccgcc tccccctgc cttcagtagg atctggctcc gtggctggag gaccaacccc
1980
tatagtggga atgcagagct taacgtgtac tgcttgtgtg tgtgcgtgag tgtgtgtgtg
2040
tgtatgagtg tgtgttccgc ctcccacct ctcccactct gctctgggta ttttgtttt
2100
tgtttagttt taggtttaca acagagagga attaatatc cagcagccta aaactgttgt
2160
gtttttctta tggtttaaaa aacgccatgt cattgataac tccctttctc ccttcccttc
2220
tcccgtctg ctgatcactc tttcatgcct gtgtatccag ggtgctctgt tccccaccg
2280

ttcccagggtg tacgaggcag agggccggga cagctttcct ctcagtcatt gttcacccca
 2340
 cttgaaaatt cagacaagaa aactttgctt aaaagatttc atgtgtggga accacagttc
 2400
 ctggctgcct ttctcctgtg tatgtgtaaa ttccttaata aatattgcag ggaaggacaa
 2460
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aa
 2492

<210> 4076

<211> 410

<212> PRT

<213> Homo sapiens

<400> 4076

Xaa	Leu	Glu	Glu	Asp	Asn	Lys	Phe	Cys	Ala	Asp	Cys	Gln	Ser	Lys	Gly
1				5					10					15	
Pro	Arg	Trp	Ala	Ser	Trp	Asn	Ile	Gly	Val	Phe	Ile	Cys	Ile	Arg	Cys
			20					25					30		
Ala	Gly	Ile	His	Arg	Asn	Leu	Gly	Val	His	Ile	Ser	Arg	Val	Lys	Ser
			35				40					45			
Val	Asn	Leu	Asp	Gln	Trp	Thr	Gln	Glu	Gln	Ile	Gln	Cys	Met	Gln	Glu
	50					55				60					
Met	Gly	Asn	Gly	Lys	Ala	Asn	Arg	Leu	Tyr	Glu	Ala	Tyr	Leu	Pro	Glu
65					70					75				80	
Thr	Phe	Arg	Arg	Pro	Gln	Ile	Asp	Pro	Ala	Val	Glu	Gly	Phe	Ile	Arg
				85					90					95	
Asp	Lys	Tyr	Glu	Lys	Lys	Lys	Tyr	Met	Asp	Arg	Ser	Leu	Asp	Ile	Asn
			100					105					110		
Ala	Phe	Arg	Lys	Glu	Lys	Asp	Asp	Lys	Trp	Lys	Arg	Gly	Ser	Glu	Pro
			115				120					125			
Val	Pro	Glu	Lys	Lys	Leu	Glu	Pro	Val	Val	Phe	Glu	Lys	Val	Lys	Met
	130					135					140				
Pro	Gln	Lys	Lys	Glu	Asp	Pro	Gln	Leu	Pro	Arg	Lys	Ser	Ser	Pro	Lys
145					150					155				160	
Ser	Thr	Ala	Pro	Val	Met	Asp	Leu	Leu	Gly	Leu	Asp	Ala	Pro	Val	Ala
				165					170					175	
Cys	Ser	Ile	Ala	Asn	Ser	Lys	Thr	Ser	Asn	Thr	Leu	Glu	Lys	Asp	Leu
			180					185					190		
Asp	Leu	Leu	Ala	Ser	Val	Pro	Ser	Pro	Ser	Ser	Ser	Gly	Ser	Arg	Lys
			195				200					205			
Val	Val	Gly	Ser	Met	Pro	Thr	Ala	Gly	Ser	Ala	Gly	Ser	Val	Pro	Glu
	210					215					220				
Asn	Leu	Asn	Leu	Phe	Pro	Glu	Pro	Gly	Ser	Lys	Ser	Glu	Glu	Ile	Gly
225					230					235				240	
Lys	Lys	Gln	Leu	Ser	Lys	Asp	Ser	Ile	Leu	Ser	Leu	Tyr	Gly	Ser	Gln
				245					250					255	
Thr	Pro	Gln	Met	Pro	Thr	Gln	Ala	Met	Phe	Met	Ala	Pro	Ala	Gln	Met
			260					265					270		
Ala	Tyr	Pro	Thr	Ala	Tyr	Pro	Ser	Phe	Pro	Gly	Val	Thr	Pro	Pro	Asn
			275				280					285			
Ser	Ile	Met	Gly	Ser	Met	Met	Pro	Pro	Pro	Val	Gly	Met	Val	Ala	Gln
	290					295					300				
Pro	Gly	Ala	Ser	Gly	Met	Val	Ala	Pro	Met	Ala	Met	Pro	Ala	Gly	Tyr

```

305          310          315          320
Met Gly Gly Met Gln Ala Ser Met Met Gly Val Pro Asn Gly Met Met
          325          330          335
Thr Thr Gln Gln Ala Gly Tyr Met Ala Gly Met Ala Ala Met Pro Gln
          340          345          350
Thr Val Tyr Gly Val Gln Pro Ala Gln Gln Leu Gln Trp Asn Leu Thr
          355          360          365
Gln Met Thr Gln Gln Met Ala Gly Met Asn Phe Tyr Gly Ala Asn Gly
          370          375          380
Met Met Asn Tyr Gly Gln Ser Met Ser Gly Gly Asn Gly Gln Ala Ala
385          390          395          400
Asn Gln Thr Leu Ser Pro Gln Met Trp Lys
          405          410

```

<210> 4077

<211> 684

<212> DNA

<213> Homo sapiens

<400> 4077

```

cgcgtgtgtac acaactggga ctttgagcct cgaaagggtt ctcgctgcag catgcgctac
60
ctggcgctga tgggtgtctcg gcccgtactc aggctccggg agatcaaccc tctgctgttc
120
agctacgtgg aggagctggg ggagattcgc aagctgcgcc aggacatcct gtcctgaag
180
ccgtacttca tcacctgcag ggaggccatg gaggtctgtc tgctgctgca gctccaggat
240
cggcagcatt ttgtggagaa cgacgagatg tactctgtcc aggacctcct ggacgtgcat
300
gccggccgcc tgggctgtc gctcaccgag atccacacgc tcttcgcca gcacatcaag
360
ctggactgcg agcgggtgcca ggccaagggc ttcgtgtgtg agctctgcag agagggcgac
420
gtgtgtgtcc cgttcgacag ccacacgtct gtgtgcgccg actgctccgc ggtcttccac
480
agggactgct actacgacaa ctccaccact tgtcccaagt gtgcccggct cagcctgagg
540
aagcagtcgc tcttccagga gccaggtccc gatgtggagg cctagcgccg aggaacagtg
600
ctgggcaccc cgctctggcc cagcaggacc caccctgcca acatcaagtt gttccttctg
660
ctccagaaac ccctgggggtg cgca
684

```

<210> 4078

<211> 194

<212> PRT

<213> Homo sapiens

<400> 4078

```

Arg Val Val His Asn Trp Asp Phe Glu Pro Arg Lys Val Ser Arg Cys
1          5          10          15
Ser Met Arg Tyr Leu Ala Leu Met Val Ser Arg Pro Val Leu Arg Leu

```

```

<400> 4079
tctagaactt aaacaatat agcaatgcct caagagcccc cagtgaagtt ttccagaaac
60
ctggttagaa tccttaggcg ggacccacct agcagtggtg ctttctcact ttgtcctggc
120
atggccaggg ttgacctctg tagagggaca tccctcgtgt ttcccccagg actgaggaag
180
gttagaatgc agagttctct ccggagatgg ctgagctctc tttaggccca tccacccttg
240
ctctcctggc tgtgcatgca aggccttctct gttagggcag tgcagcttgg agggtagaca
300
cactgagggg gtaagagcct gtgtgaacag ctcccatctg cagagcctcc tctccttaca
360
gatatatccc aaggcagggg tcccatattc cctgcggttc tgagctggca ttacctgcag
420
cagatggatc actggacagc gagtccggaa atcatccttc tccaccaagc tttcccactt
480
aatagcttgg taacctttga cagatgattt ctttctttcc taatttgtag catgggggaca
540
gtgagggata caacagcagt ttctgaaaca gcagtacca ccatttactg catttacccc
600
aggccaggca ctgtgtgtgg gcatggcatt taatcccggg aacactctat aagatagggg
660
ctggttatgac ctcatctctc cgatgaggaa gccagggtc agagaagttg aaggcatgag
720

```


ccccgttggt atgaagtcac tagatagtag agctggggat ttgaacccca gaggccact
 780
 nta
 783

<210> 4080
 <211> 101
 <212> PRT
 <213> Homo sapiens

<400> 4080
 Met Pro Ala Gln Asn Arg Arg Glu Tyr Gly Thr Pro Ala Leu Gly Tyr
 1 5 10 15
 Ile Cys Lys Glu Arg Arg Leu Cys Arg Trp Glu Leu Phe Thr Gln Ala
 20 25 30
 Leu Thr Pro Ser Val Cys Leu Pro Ser Lys Leu His Cys Pro Asn Arg
 35 40 45
 Glu Ala Leu His Ala Gln Pro Gly Glu Gln Gly Trp Met Gly Leu Lys
 50 55 60
 Arg Ala Gln Pro Ser Pro Glu Arg Thr Leu His Ser Asn Leu Pro Gln
 65 70 75 80
 Ser Trp Gly Lys His Glu Gly Cys Pro Ser Thr Glu Val Asn Pro Gly
 85 90 95
 His Ala Arg Thr Lys
 100

<210> 4081
 <211> 645
 <212> DNA
 <213> Homo sapiens

<400> 4081
 agaattcctc cctggatgga agtggtcctt ataccatga caggaaaacc aagtctgtac
 60
 ccaggattgt tcctttttac cactccttgt agactggtag ggctgtgca gaacttagca
 120
 ttgggcaaag aagagctaag tggaactatg gaacagatct tcatgaatgt cgctatcttt
 180
 gaggatgaag tttttgctgg agttaccaca caccaggaac tctttccaca cagcctgctg
 240
 agtgtgattg ccaacttcat ccctttctct gatcacaacc agagtccacg gaacatgtac
 300
 caatgccaga tgggtaagca aactatgggc tttccacttc tcaattatca agaccgatcg
 360
 gataacaaac tgtatcgtct tcagactcct cagagtccct tggtagagacc ctccatgtat
 420
 gattattatg acatggataa ctatccaatt gggaccaatg ccatcgttgc tgtgatttct
 480
 tacactggct atgatatgga agatgccatg attgtgaata aggcctcttg ggaacgaggc
 540
 ttgccccatg gaagtgtcta caagtctgag ttcatagacc tctctgaaaa aattaaacaa
 600
 ggagatagta gcctgggtgt tggcatcaaa cctggtgacc cagcgc
 645

<210> 4082
 <211> 215
 <212> PRT
 <213> Homo sapiens

<400> 4082
 Arg Ile Pro Pro Trp Met Glu Val Val Leu Ile Pro Met Thr Gly Lys
 1 5 10 15
 Pro Ser Leu Tyr Pro Gly Leu Phe Leu Phe Thr Thr Pro Cys Arg Leu
 20 25 30
 Val Arg Pro Val Gln Asn Leu Ala Leu Gly Lys Glu Glu Leu Ile Gly
 35 40 45
 Thr Met Glu Gln Ile Phe Met Asn Val Ala Ile Phe Glu Asp Glu Val
 50 55 60
 Phe Ala Gly Val Thr Thr His Gln Glu Leu Phe Pro His Ser Leu Leu
 65 70 75 80
 Ser Val Ile Ala Asn Phe Ile Pro Phe Ser Asp His Asn Gln Ser Pro
 85 90 95
 Arg Asn Met Tyr Gln Cys Gln Met Gly Lys Gln Thr Met Gly Phe Pro
 100 105 110
 Leu Leu Thr Tyr Gln Asp Arg Ser Asp Asn Lys Leu Tyr Arg Leu Gln
 115 120 125
 Thr Pro Gln Ser Pro Leu Val Arg Pro Ser Met Tyr Asp Tyr Tyr Asp
 130 135 140
 Met Asp Asn Tyr Pro Ile Gly Thr Asn Ala Ile Val Ala Val Ile Ser
 145 150 155 160
 Tyr Thr Gly Tyr Asp Met Glu Asp Ala Met Ile Val Asn Lys Ala Ser
 165 170 175
 Trp Glu Arg Gly Phe Ala His Gly Ser Val Tyr Lys Ser Glu Phe Ile
 180 185 190
 Asp Leu Ser Glu Lys Ile Lys Gln Gly Asp Ser Ser Leu Val Phe Gly
 195 200 205
 Ile Lys Pro Gly Asp Pro Arg
 210 215

<210> 4083
 <211> 2983
 <212> DNA
 <213> Homo sapiens

<400> 4083
 aactgctcac ccagaactcc ggctcagacg gcaccaccac tgtggaggtc tcccttggcg
 60
 gctctgaagg gcagttactt acgtcctatt ctgtggtccc taagtacctt gcacgtacct
 120
 ttattttaaac acttactgca atacattcca gttagctggt tatgaacctg tctaccatga
 180
 aaaactaaat gccttgaggg gaaggccgct gttcatttct tatctatctt gcctacacgg
 240
 tttcttgccc tcagtaagca ttttaataaac ttttggttaa catatgaatg aataattaa
 300
 ttcaaaaata aattcttgac tgttttctcc catctctctc aaatgtttgc tctggaatat
 360

ggaaacagga tggcaagttt aaaacagatc tggatatgtg gcttcagggg cacatctgta
420
caaattctata tctcacaagt ggcaaagaga taaaaactcc attcttttct cctctgaatt
480
gttaatatct ctaaattctaa aggcaggcag caggtttctc tgagaacaca tgcaacctca
540
gctcaatgca gtgacagtgc taggataccc ggagagccag agctgtggga gggcagaggt
600
agaacaagag aggggtctcag catcaggcca agacaaagcc ctacttacct ccttcttggg
660
aattcatgat gttcagggca aacagcattg cattggagaa cgtggttgcc tcttctttac
720
ttgcaaagtt taagccgtag acctggcggg catctcgcca ctggtggaag gttggcgtgg
780
cctgattgta cttcagccct ttcacgattg aataattgat cacaacctgc tgatcctgca
840
acttgactcc aacgactctg aagggtgtgc tggcagtgtt gtggtagatg ttgatccggc
900
tgaatccctg ctggccaggt ttgattggta cccatttctt actggtggtc ctctgatcaa
960
cataggctgg tgggagtaca ggactcgccct cctcaggggt ccctgtgctg ccacttttca
1020
gccatggcca caagtgaaca gagtatctgc caagcccggg cttccgtgat ggtctacgat
1080
gacaccagta agaaatgggt accaatcaaa cctggccagc agggattcag ccggatcaac
1140
atctaccaca acactgccag caacaccttc agagtcgttg gagtcaagtt gcaggatcag
1200
caggttgtga tcaattattc aatcgtgaaa gggctgaagt acaatcaggc cacgccaacc
1260
ttccaccagt ggcgagatgc ccgccaggtc tacggcttaa actttgcaag taaagaagag
1320
gcaaccacat tctccaatgc aatgctgttt gccctgaaca tcatgaattc ccaagaagga
1380
ggccccctcca gccagcgtca ggtgcagaat ggcccccttc ctgatgagat ggacatccag
1440
agaagacaag tgatggagca gcaccagcag cagcgtcagg aatctctaga aagaagaacc
1500
tcggccacag ggccccatct cccaccagga catccttcat ctgcagccag cgcccccgtc
1560
tcatgtagtg ggctccacc gcccccccca cccccagtcc cacctccacc cactggggct
1620
acccacctc cccaccccc actgccagcc ggaggagccc aggggtccag ccacgacgag
1680
agctccatgt caggactggc cgctgccata gctggggcca agctgagaag agtccaacgg
1740
ccagaagacg catctggagg ctccagtcct agtgggacct caaagtccga tgccaaccgg
1800
gcaagcagcg ggggtggcgg aggaggcctc atggaggaaa tgaacaaact gctggccaag
1860
aggagaaaag cagcctccca gtcagacaag ccagccgaga agaaggaaga tgaaagccaa
1920
atggaagatc ctagtacctc cccctctccg gggacccgag cagccagcca gccacctaac
1980

tcctcagagg ctggccggaa gccctgggag cggagcaact cggaggagaa gcctgtgtcc
 2040
 tcgattctgt ccagaacccc gtctgtggca aagagccccg aagctaagag ccccttcag
 2100
 tcgcagctc actctaggat gaagcctgct gggagcgtga atgacatggc cctggatgcc
 2160
 ttcgacttgg accggatgaa gcaggagatc ctagaggagg tggtagaga gctccacaag
 2220
 gtgaaggagg agatcatcga cgccatcagg caggagctga gtgggatcag caccacgtaa
 2280
 ggggccggcc tcgtcgcgt gattcgtcga gcccatccgg cgacagagga cagccagaag
 2340
 cccagccagc cccagactcc agtgcaccag agcacgcaca ggagcctggg cgcgctgctg
 2400
 tgaaacgtcc tgacctgtga tcacacatga cagttaggaa accaagtga actcctgggt
 2460
 tttttttaga ttctgcctga cacggaacac caggctctgct cgtctttttt gtgttttata
 2520
 tttgcttatt taaggtacat ttctttgggt ttctagagac gccctaagt cactgcttc
 2580
 attagacggt ttccagggtt tctcccaggt gacgctgtta gcgcctcagc tggcggtgac
 2640
 agccggccca gcgtggcgcc accacacacc gcagagctgt ccaggcacag ctccgtcccc
 2700
 agcgctcatg gtgttgaaac tgtctgtcat gcaccacggt gtctgtgtcc acacagtaat
 2760
 aaacggttta ctgtccgcaa aaaaaaact ttgccggtct cagtctttaa tcgtggcagg
 2820
 gcctcacgca cgcgcgcacg tacacacact caggcttcag atcttgttga aagctgcat
 2880
 attgacactc tgcactttct cttctatctt gttattatat ctccggcagt ctgtcccacc
 2940
 ttgtcgtcct ccaccacaca ctgaatctgt agctccggcc ggc
 2983

<210> 4084

<211> 362

<212> PRT

<213> Homo sapiens

<400> 4084

Gln	Asp	Gln	Gln	Val	Val	Ile	Asn	Tyr	Ser	Ile	Val	Lys	Gly	Leu	Lys
1				5					10					15	
Tyr	Asn	Gln	Ala	Thr	Pro	Thr	Phe	His	Gln	Trp	Arg	Asp	Ala	Arg	Gln
			20					25					30		
Val	Tyr	Gly	Leu	Asn	Phe	Ala	Ser	Lys	Glu	Glu	Ala	Thr	Thr	Phe	Ser
		35					40				45				
Asn	Ala	Met	Leu	Phe	Ala	Leu	Asn	Ile	Met	Asn	Ser	Gln	Glu	Gly	Gly
	50					55				60					
Pro	Ser	Ser	Gln	Arg	Gln	Val	Gln	Asn	Gly	Pro	Ser	Pro	Asp	Glu	Met
65				70					75					80	
Asp	Ile	Gln	Arg	Arg	Gln	Val	Met	Glu	Gln	His	Gln	Gln	Gln	Arg	Gln
			85					90					95		
Glu	Ser	Leu	Glu	Arg	Arg	Thr	Ser	Ala	Thr	Gly	Pro	Ile	Leu	Pro	Pro

```
<210> 4085
<211> 2673
<212> DNA
<213> Homo sapiens
```

```
<400> 4085
ggattcaaca catcccaggg caagctgctg cgcaccatct tcttcggggg caagaggggtg
60
actgccaaca acctggagac cttcatcttc atcctctctc tcttggtgtt tgccatcgct
120
gcagctgcct atgtatggat tgaagggtacc aaggacccca gccggaaccg ctacaagctg
180
tttctggagt gcacctgat cctcacctcg gtcgtgcctc ctgagctgcc catcgagctg
240
tccctggccg tcaacacctc cctcatcgcc ctggccaagc tctacatgta ctgcacagag
300
cccttcgga tcccctttgc tggcaaggtc gaggtgtgct gctttgaaa gacggggacg
360
ttgaccagtg acagcctggg ggtgcgcggt gtggccgggc tgagagacgg gaaggaggtg
420
```

accccagtgt ccagcatccc ttagaaaaca caccggggccc tggcctcgtg ccactcgtc
480
atgcagctgg acgacggcac cctcgtgggt gaccctctag agaaggccat gctgacggcc
540
gtggactgga cgctgaccaa agatgagaaa gtattccccc gaagtattaa aactcagggg
600
ctgaaaattc accagcgctt tcattttgcc agtgccctga agcgaatgtc cgtgcttgcc
660
tcgtatgaga agctgggctc caccgacctc tgctacatcg cggccgtgaa gggggccccc
720
gaaactctgc actccatgtt ctcccagtgc ccgcccact accaccacat ccacaccgag
780
atctcccggg aaggagcccc tgcctggcg ctgggctaca aggagctggg acacctcact
840
caccagcagg cccgggaggt caagcgggag gccctggaat gcagcctcaa gtttgtgggc
900
ttcattgtgg tctcctgccc gctcaaggct gactccaagg ccgtgatccg ggagatccag
960
aatgcgtccc accgggtgggt catgatcacg ggagacaacc cgctcactgc atgccacgtg
1020
gcccaggagc tgcacttcat tgaaaaggcc cacacgctga tcctgcagcc tccctccgag
1080
aaaggccggc agtgcgagtg gcgctccatt gacggcagca tcgtgctgcc cctgnngccc
1140
ggggctcccc aaaggcactg gccctggagt acgcacntgt gcctcacagg cgacggcttg
1200
gccacctgc aggccaccga ccccagcag ctgctccgcc tcatcccca tgtgcagggt
1260
ttcggccgtg tggctcccaa gcagaaggag tttgtcatca ccagcctgaa ggagctgggc
1320
tacgtgaccc tcattgtgtg ggatggcacc aacgacgtgg gcgccctgaa gcatgctgac
1380
gtgggtgtgg cgctcttgcc caatgccct gagcgggttg tcgagcggcg acggcggccc
1440
cgggacagcc caacctgag caacagtggc atcagagcca cctccaggac agccaagcag
1500
cggtcggggc tccctccctc cgaggagcag ccaacctccc agagggaccg cctgagccag
1560
gtgctgcgag acctcgagga cgagagtacg cccattgtga aactggggga tgccagcatc
1620
gcagaccct tcacctcaa gctctcatcc atccagtga tctgccacgt gatcaagcag
1680
ggccgctgca cgctggtgac cacgctacag atgttcaaga tcctggcgct caatgccctc
1740
atcctggcct acagccagag cgtcctctac ctggaggag tcaagttcag tgacttccag
1800
gccacctac aggggctgct gctggccggc tgcttccctc tcactccccg ttccaagccc
1860
ctcaagaccc tctcccgaga acggcccctg cccaacatct tcaacctgta caccatcctc
1920
accgtcatgc tccagttctt tgtgcacttc ctgagccttg tctacctgta ccgtgaggcc
1980
caggcccgga gcccnnag anagcaggag cagttcgtgg acttgtacaa ggagtttgag
2040

ccaagcctgg tcaacagcac cgtctacatc atggccatgg ccatgcagat ggccaccttc
 2100
 gccatcaatt acaaaggccc gcccttcatt gagagcctgc ccgagaacaa gcccttgggtg
 2160
 tggagtctgg cagtttcact cctggccatc attggcctgc tctcggttc ctcgcccgc
 2220
 ttcaacagcc agtttggcct cgtggacatc cctgtggagt tcaagctggt cattgcccag
 2280
 gtctgtctcc tggacttctg cctggcgctc ctggccgacc gcgtcctgca gttcttctg
 2340
 gggaccccgga agctgaaagt gccttctctga gatggcagtg ctggtaccca ctgcccaccc
 2400
 tggctgccgc tgggcgggaa ccccaacagg gccccgggag ggaaccctgc ccccaacccc
 2460
 ccacagcaag gctgtacagt ctcgcccttg gaagactgag ctgggacccc cacagccatc
 2520
 cgctggcttg gccagcagaa ccagcccca gccagcacct ttggtaaata aagcagcatc
 2580
 tgagatttta aaaaaaaaaa aaaaaaaccc cggaaatatt tgaattggta aattcggaaa
 2640
 acccccgatt tttcttttaa ctgttcctg ttt
 2673

<210> 4086

<211> 789

<212> PRT

<213> Homo sapiens

<400> 4086

Gly	Phe	Asn	Thr	Ser	Gln	Gly	Lys	Leu	Leu	Arg	Thr	Ile	Phe	Phe	Gly
1				5					10					15	
Val	Lys	Arg	Val	Thr	Ala	Asn	Asn	Leu	Glu	Thr	Phe	Ile	Phe	Ile	Leu
			20					25					30		
Phe	Leu	Leu	Val	Phe	Ala	Ile	Ala	Ala	Ala	Tyr	Val	Trp	Ile	Glu	
		35					40				45				
Gly	Thr	Lys	Asp	Pro	Ser	Arg	Asn	Arg	Tyr	Lys	Leu	Phe	Leu	Glu	Cys
		50				55			60						
Thr	Leu	Ile	Leu	Thr	Ser	Val	Val	Pro	Pro	Glu	Leu	Pro	Ile	Glu	Leu
65					70				75					80	
Ser	Leu	Ala	Val	Asn	Thr	Ser	Leu	Ile	Ala	Leu	Ala	Lys	Leu	Tyr	Met
			85						90				95		
Tyr	Cys	Thr	Glu	Pro	Phe	Arg	Ile	Pro	Phe	Ala	Gly	Lys	Val	Glu	Val
			100					105					110		
Cys	Cys	Phe	Asp	Lys	Thr	Gly	Thr	Leu	Thr	Ser	Asp	Ser	Leu	Val	Val
		115				120					125				
Arg	Gly	Val	Ala	Gly	Leu	Arg	Asp	Gly	Lys	Glu	Val	Thr	Pro	Val	Ser
		130				135					140				
Ser	Ile	Pro	Val	Glu	Thr	His	Arg	Ala	Leu	Ala	Ser	Cys	His	Ser	Leu
145					150				155					160	
Met	Gln	Leu	Asp	Asp	Gly	Thr	Leu	Val	Gly	Asp	Pro	Leu	Glu	Lys	Ala
			165						170				175		
Met	Leu	Thr	Ala	Val	Asp	Trp	Thr	Leu	Thr	Lys	Asp	Glu	Lys	Val	Phe
			180					185					190		
Pro	Arg	Ser	Ile	Lys	Thr	Gln	Gly	Leu	Lys	Ile	His	Gln	Arg	Phe	His

3274


```

<400> 4087
aggggaagtc tggagaaggc attgtttcaa ttattaaaag tgtgggggca gtgggcggaa
60
caaacgcgcc gactacagag gctggacgta agcttagcgg tggcgcgcgt gcgcagcgcc
120
ggcccagatt gccaaaacaa aggggatttg gtgatggagg ctttgttaga aggaatacaa
180
aatcgagggc atggtggggg atttttgaca tcttgcaag cagaactaca ggagctcatg
240
aaacagattg acataatggt ggctcataaa aaatctgaat gggaaggacg tacacatgct
300
ctagaaactt gcttgaaaat ccgtgaacag gaacttaaga gtcttaggag tcagttggat
360
gtgacacata aggaggttgg aatgttgc atcagcaggtag aagaacatga aaaaatcaag
420
caagagatga ccatggaata taagcaggag ttgaagaaac tacatgaaga attatgcata
480
ctgaagagaa gctatgaaaa gcttcagaaa aagcaaatga gggaattcag aggaaatacc
540
aaaaatcaca gggaagatcg gtctgaaatt gagaggtaa ctgcaaaaat agaggaattc
600
cgtcagaaat cgctggactg ggagaagcaa cgcttgattt atcagcaaca ggtatcttca
660
ctggaggcac aaaggaaggc tctggctgaa caatcagaga taattcaggc tcagcttgtc
720
aatcggaac agaaattaga gtctgtggaa ctttctagcc aatcagaaat tcaacactta
780

```

agcagtaaac tggagcgggc taatgacact atctgtgccca atgagttgga aatagagcgc
 840
 ctcaccatga gggatcaatga cttgggttga accagtatga ctgtcctaca ggagcagcag
 900
 caaaaagaag aaaaattgag ggaatctgaa aaactattag aggctctgca ggaaaaaaa
 959

<210> 4088

<211> 319

<212> PRT

<213> Homo sapiens

<400> 4088

Arg	Gly	Ser	Leu	Glu	Lys	Ala	Leu	Phe	Gln	Leu	Leu	Lys	Val	Trp	Gly
1			5					10					15		
Gln	Trp	Ala	Glu	Gln	Thr	Arg	Arg	Leu	Gln	Arg	Leu	Asp	Val	Ser	Leu
		20					25					30			
Ala	Val	Ala	Arg	Val	Arg	Ser	Ala	Gly	Pro	Ser	Cys	Gln	Asn	Lys	Gly
		35					40					45			
Asp	Leu	Val	Met	Glu	Ala	Leu	Leu	Glu	Gly	Ile	Gln	Asn	Arg	Gly	His
	50					55				60					
Gly	Gly	Gly	Phe	Leu	Thr	Ser	Cys	Glu	Ala	Glu	Leu	Gln	Glu	Leu	Met
65					70					75					80
Lys	Gln	Ile	Asp	Ile	Met	Val	Ala	His	Lys	Lys	Ser	Glu	Trp	Glu	Gly
		85						90						95	
Arg	Thr	His	Ala	Leu	Glu	Thr	Cys	Leu	Lys	Ile	Arg	Glu	Gln	Glu	Leu
		100						105					110		
Lys	Ser	Leu	Arg	Ser	Gln	Leu	Asp	Val	Thr	His	Lys	Glu	Val	Gly	Met
		115					120					125			
Leu	His	Gln	Gln	Val	Glu	Glu	His	Glu	Lys	Ile	Lys	Gln	Glu	Met	Thr
	130					135					140				
Met	Glu	Tyr	Lys	Gln	Glu	Leu	Lys	Lys	Leu	His	Glu	Glu	Leu	Cys	Ile
145				150					155					160	
Leu	Lys	Arg	Ser	Tyr	Glu	Lys	Leu	Gln	Lys	Lys	Gln	Met	Arg	Glu	Phe
		165						170						175	
Arg	Gly	Asn	Thr	Lys	Asn	His	Arg	Glu	Asp	Arg	Ser	Glu	Ile	Glu	Arg
		180						185					190		
Leu	Thr	Ala	Lys	Ile	Glu	Glu	Phe	Arg	Gln	Lys	Ser	Leu	Asp	Trp	Glu
	195					200						205			
Lys	Gln	Arg	Leu	Ile	Tyr	Gln	Gln	Gln	Val	Ser	Ser	Leu	Glu	Ala	Gln
	210					215					220				
Arg	Lys	Ala	Leu	Ala	Glu	Gln	Ser	Glu	Ile	Ile	Gln	Ala	Gln	Leu	Val
225				230						235				240	
Asn	Arg	Lys	Gln	Lys	Leu	Glu	Ser	Val	Glu	Leu	Ser	Ser	Gln	Ser	Glu
		245						250					255		
Ile	Gln	His	Leu	Ser	Ser	Lys	Leu	Glu	Arg	Ala	Asn	Asp	Thr	Ile	Cys
		260						265					270		
Ala	Asn	Glu	Leu	Glu	Ile	Glu	Arg	Leu	Thr	Met	Arg	Val	Asn	Asp	Leu
	275					280						285			
Val	Gly	Thr	Ser	Met	Thr	Val	Leu	Gln	Glu	Gln	Gln	Lys	Glu	Glu	
	290					295					300				
Lys	Leu	Arg	Glu	Ser	Glu	Lys	Leu	Leu	Glu	Ala	Leu	Gln	Glu	Lys	
305					310					315					